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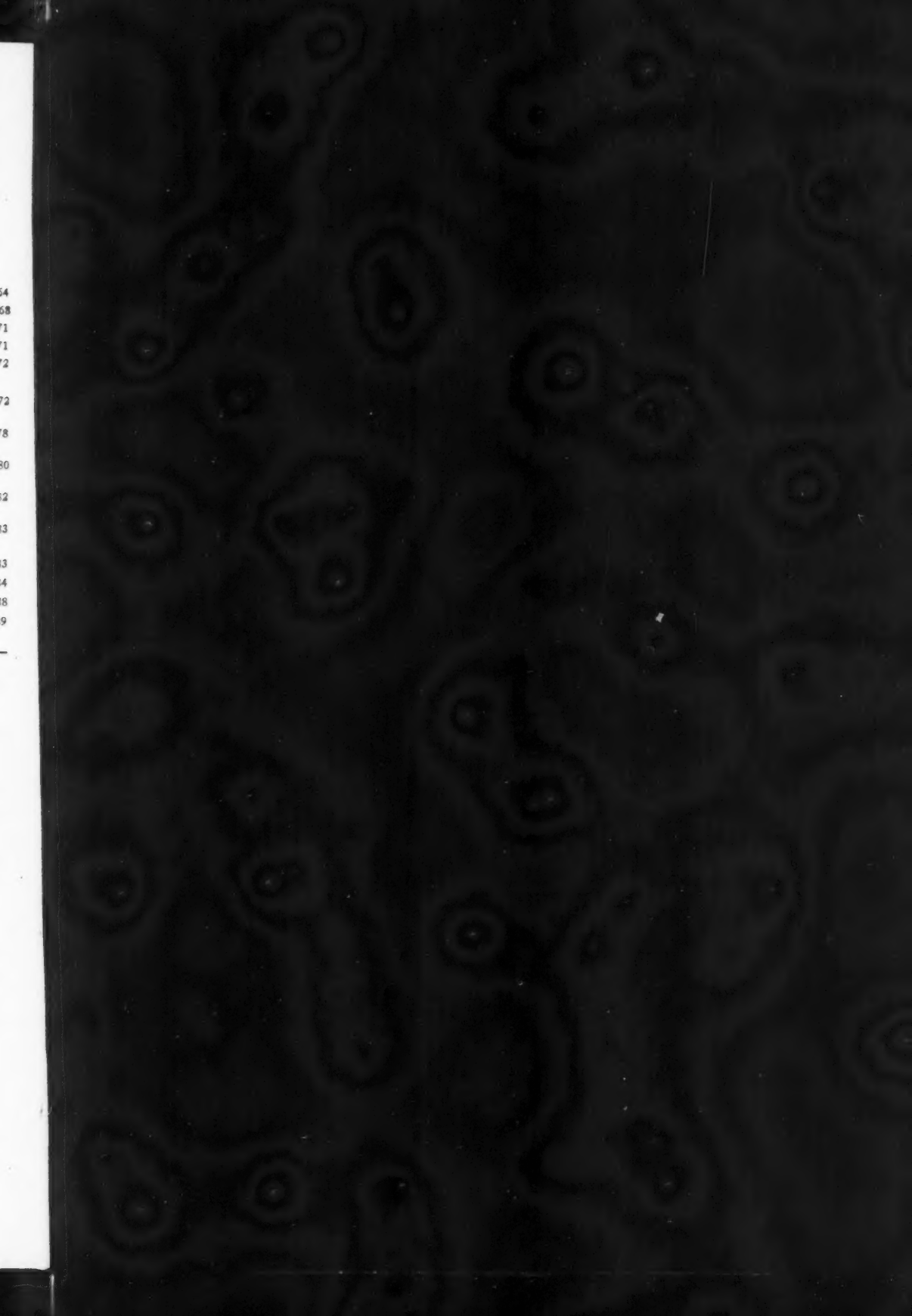

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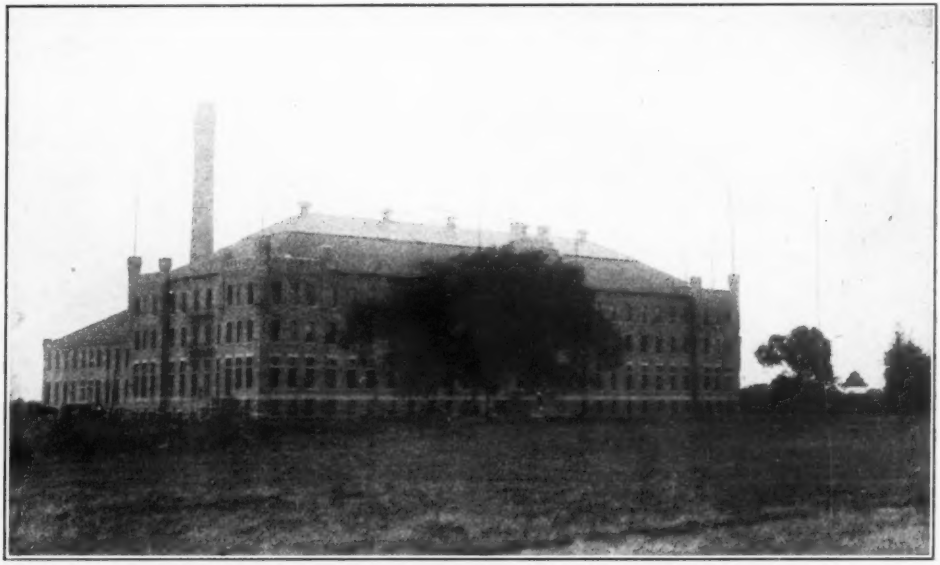

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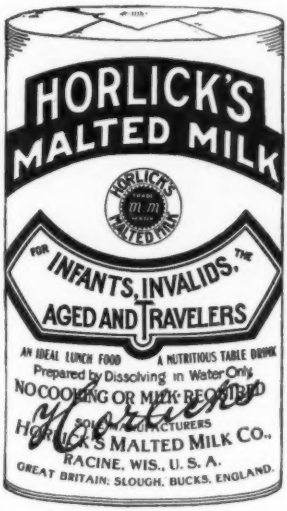
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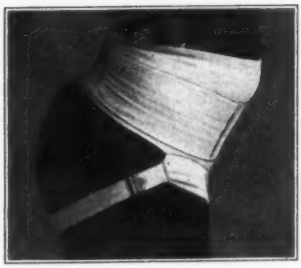

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PHYSIOLOGY OF CONSCIOUSNESS

C. B. ATZEN, D. O.,
Omaha, Neb.

THIS subject is selected because I believe it has not been given sufficient consideration in our college courses, and because of its practical application to our work being not generally recognized. However, in attempting a discussion of it, it is far from my purpose to pose as an authority on the subject; but I hope rather to stimulate some who hear me and others who may read what I say to careful study and investigation of this very interesting subject.

In this discussion I want to present three phases: First, the anatomical mechanism or the physical basis upon which the production of consciousness depends; second, to illustrate by a few examples how this knowledge may be utilized as an aid in the cure of disease; third, how physical or structural abnormalities may prevent the execution or transmission of mental stimuli from the central nervous system to the peripheral or organic man.

To define the nervous mechanism which is fundamental to consciousness is the most difficult of these three divisions because there are two diametrically opposite views on the production of consciousness: one, the metaphysical view, which holds that consciousness is something distinct and above the functions of the nervous system. If this view of consciousness is accepted, it has but little interest to the physician, for if consciousness is something distinct, over and above the physical functions of the nervous system, then the physical structure cannot give an interpretation of the phenomena. If on the other hand, the physiological interpretation of consciousness is accepted, namely, that consciousness is a by-product of nervous metabolism, somewhat as the phenomena of light is a by-product of combustion or oxidation process in a flame, or of a friction resistance process in the electric light, it becomes of great importance to the physician. For if it is accepted that consciousness is a product of nervous functions, thought becomes just as important from a standpoint of function in therapeutics as contraction is in muscle metabolism, or secretion in glands. As a physician, I reject the metaphysical view, and accept the physiological interpretation, and what I have to say on the subject will be from this point of view.

Before taking up the nervous mechanism which is fundamental to consciousness, allow me to dwell for a few minutes upon some of the other essential functions of the human body. I think all will agree upon the fact that the body derives its power to function directly from the food, air and water which it consumes just as a man-made machine does; that it cannot give out in work or function in excess of what it consumes potentially in the form of food, air, and water; it is not a creator, it cannot make something out of nothing; but the body works as merely a transformer of energy, similar to man-made machines (although this thought must be accepted with some modifying qualifications); that every function, from the simplest reflex act to the most complex mental function, is a transformation process wherein chemical potentials are metamorphosed into human physics.

For the purpose of simplifying the functions of the human body let us divide the body functions into different departments, somewhat as manufacturing establishments are divided. Every department of the manufacturing plant is dependent, however, for

Address before the Joint Annual Meeting of the Kansas and Missouri State Societies at Kansas City, Mo., May 15, 1915.

capacity to do work upon the force developed in the power plant, resulting from the intake of fuel, air and water; likewise every department of the body is dependent upon the intake of food, air and water, for its capacity to function. The respiratory system, furnishing all the departments of the body with oxygen and removing the CO_2 gas is in turn dependent upon the musculoskeletal man, for unless the chest cavity responded to the muscles of respiration this system could not supply the organism with oxygen. The musculo-skeletal man is in turn dependent upon the circulatory system for pabulum, and upon the nervous system for functional co-ordination. The circulatory system is in turn dependent upon the digestive and respiratory tracts for a new supply of crude material to be changed into food for cell metabolism, and so on through the many systems and special functions of our complex makeups.

All the cell workers in these various departments are specialists, each performing useful service for the good of the entire composite whole; but each cell is likewise limited in capacity to do work in direct proportion to which it is capable of consuming crude pabulum derived from the blood stream. This applies as well to the cells of the nervous system as it does to the cells of any other department or system of the body: please remember this truth, for if this is forgotten we loose our reckoning and become lost in a maze of conflicting theories.

The nervous mechanism fundamental to consciousness will next be taken up, starting with the less complex reflex functions illustrated in the kick following a tap on the patellar tendon. The nervous mechanism necessary to perform this act is the primary peripheral sensory nerve, transmitting an impulse resulting from the impact on the tendon to the spinal cord and a motor and vaso-motor response originating in the anterior and lateral horn cells of the cord, transmitted to the quadricepts extensor muscle. This initiates a muscular contraction in the muscle, as the result of an explosion and consumption of muscle pabulum. This illustrates how a force acting upon the body causes an internal adaptive reaction within the body accompanied by circulatory, nervous, nutritional, and musculoskeletal alterations. The nervous mechanism involved is a stable, organized, nervous arc transmitted by means of heredity, performing a purposeful function, with or without the involvement of consciousness. If a stimulus is applied to a larger area of the body, necessitating a more complex internal response than the spinal cord can unaided supervise, the stimulus may be transmitted by means of one or more afferent tracts cephalad, and initiate motor reactions in the medulla, pons, cerebellum, midbrain, basal ganglia, or in any two or more of these. This motor impulse is then transmitted by means of appropriate fibers through the anterior lateral ground bundles of the spinal cord, ending by means of arborizing filaments in direct contact with dendritic filaments from the anterior and lateral horn cells, and by means of fibers from these cells, the motor impulse is transmitted to the muscles, organs, or tissues, that are to make functional response to the initial stimulus. This last named nervous mechanism controls the majority of our body functions, as respiration, heart action, and through it the circulation, the digestion and assimilation of the foodstuffs, the secretions of the glandular activities of the body, the excretion of urine, vaso-motor control to all the organs and tissues, and all the other habitual acts of the body, while consciousness may or may not be occupied with other duties, or even while consciousness is absent, as during sleep. All of these functions are performed with clocklike regularity under the direction and control of the above enumerated nervous mechanism, constituting more than ninety per cent. of all our body functions. This entire nervous mechanism is likewise, by means of heredity, transmitted from parent to offspring and constitutes race heredity, all normal human bodies receiving this as a gift from the past.

If, however, conditions arise in the life of the individual necessitating acts which are not yet represented in the nervous system as organized nervous pathways, new experiences of any kind, the stimulus passes from the basal ganglia up into the cerebral

convolutions into the ideo-motor arc of the nervous system. There in these highest developed nervous centers a new function is developed, namely, consciousness of what the reaction of the organism is to be, to the condition confronting it. This is highest of all activities of which the nervous system is capable, and will arouse automatically associated ideas, which have at previous times been acted on, by the organism, causing a train of thought known as deliberation or reflections. This means that the stimulus passes from nerve group to associated nerve groups, accompanied with consciousness, known as memory, producing motives which are instrumental in the selection of a choice of action.

Physiologically this choice of action, or the will, represents the direction of least resistance in the nervous system and is the best of which the nervous system is capable at this particular time; although directly after the motor reaction has taken place the experience which accompanies this particular act, may so modify the nervous system, that ever after the organism will act differently. If the nervous system is sufficiently well organized so that this new act, selected by the individual, is in harmony with the scheme of nature, a new and useful combination is added to the nervous system. If the act selected proves to be out of harmony with the natural scheme of things, the act performed will bring undesirable experiences. If these are properly analyzed they may be the means of producing more suitable reactions in the future, raising the organism in the scheme of things from lower to higher organic development. By this slow process of action and reaction, man is evolved from the brute, and is evolving onward to divinity, incorporating into his nervous system a definite organic record of the course which he pursued, which organized structure may be transmitted to his offspring.

The practical application of this problem to therapeutics is the next phase of this subject. It must, however, be understood that the application of the physiology of consciousness to therapeutics is an endless problem and I will merely point out some uses to which this subject may be applied. First, get the thought clearly in mind that the evolution of consciousness is the new order of human development in the scheme of nature; that those organisms most nearly in harmony with nature's scheme will most likely be the ones to survive in the struggle of the survival of the fittest: that the nature of the new combinations organized into our nervous systems will, to a great extent, depend upon environment and training modified to a certain extent by inherited tendencies. As we are not always responsible for the training to which we are subjected, nor for the environment to which we are exposed, it is useless to hold any resentment towards those who may differ from us in thoughts and feelings, for their thoughts and feelings are as much the result of heredity, environment, and training, as our thoughts and feelings are the result of these forces. They have the same right to act in their way, as we have to act in ours, *for act they must,* as every ingoing stimulus must be responded to on the part of the organism in some form of motor reaction.

It should be clear, then, that there is but one way to change the motor reactions that an organism is habitually making: namely change the undesirable habit into more desirable ones, and as a changed environment and different methods of training are the only forces at our command, it is by and through these two forces that the organism must be altered in nervous combinations. This in time will be followed by altered motor reactions on the part of the organism.

An excellent method to pursue in all cases of low spirits or discouragement is to explain to the patient the latent capacities of the normal human brain. It is now accepted by physiologists that the normal human brain contains more than one thousand million of nerve cells capable of being combined into group relations to produce thoughts and feelings. When this number of individual nerve units is compared with the twenty-six letter units, of which the English alphabet is composed and when the possible relations in words, capable of being constructed out of these twenty-six letter units, exceeds 75,000,000, the capacity of the

human brain must be, with more than one thousand millions of individual nerve cells from which to construct combinations capable of functioning in consciousness as thoughts and feelings must dawn upon one. We have in this an excellent antidote to dispel discouragement.

Then, again, where some actual condition of disease exists, coupled with mental depression or discouragement, one of the most helpful and stimulating suggestions consists in giving a thorough physical examination, starting with the head, and ending with the feet, dividing the body into its respective systems, as the respiratory, circulatory, digestive, urinary, reproductive, internal secretory, muscular, skeletal, ligamentous, and nervous, examining each of these systems separately in the usual manner approved by the texts on physical diagnosis. After this has been done, explain to the patient what functions each of these different systems performs in the composite whole, and if the trouble is a curable one, emphasize how all these systems which are found in normal conditions will sustain and support the body during the period which in your opinion is necessary to restore the organism to health, or to repair the defects which exist in one or more of the separate systems. Methods of applying this department of therapeutics are endless, and we leave it for each physician to select such means as best suit the case in his or her judgment, and we will pass to the last phase of this theme with this advice: *Aim in the application of suggestive therapeutics to induce the patient to express in functions, acts of a character that are opposite in nature to the functions to be suppressed or obliterated.*

Continuance of undesirable functions is not only wasteful in consuming pabulum, but also tends to organize and encourage unsuitable combinations to become more firmly established in the nervous system. It makes no difference whether this undesirable function which is to be eliminated is mental or physical, the same treatment applies, for thought expressed in language is just as much a reflex motor reaction, from the ideo-motor arc of the nervous system, as the kick of the foot is the reflex motor reaction resulting from the tap of the patellar tendon, bringing into action the reflex arc of the spinal cord. The records in the ideo-motor arc of the nervous system are organized in a like manner by the present environment and by means of education, as the spinal reflex arcs. The compound reflex arcs, governing the organic functions of the body, were organized during the evolutionary development of the human family, and transmitted to us by means of heredity, and we are at the present time organizing into our nervous system ideo-motor reactions as the result of the present environmental stimuli. These in time will act independent of consciousness, just as the hereditary nervous mechanisms of the spinal cord and subordinate centers of the brain, transmitted to us from the past now function with or without consciousness being aware of the process. Clearly we are the product of the past and the parent of the future, and it behooves us to exercise care in selecting the manner of motor reactions which we allow to become incorporated into our nervous systems, for if undesirable combinations are transmitted to our children as the result of our present activities, we may inflict suffering on them for which they are not responsible.

Now we will pass to the third phase of our theme, namely, how structural irregularities may defeat the organism's effort to adaptation, when the central nervous system is in a normally healthful condition. I think all the schools of therapy are agreed upon the fact that the nervous system regulates and controls the speed of cellular metabolism, also the co-ordinate inter-relations of the respective systems of our bodies. This is clearly illustrated in the manner in which the circulatory, and the respiratory systems are modified in speed and amplitude to meet the demands of the tissues for oxygen and cell pabulum, showing clearly the inter-relations existing between the various systems of the body and the controlling functions of the nervous system over all the other systems of the body. This interdependence of the various systems, of course, necessitates that the nerve tracts over which this interaction is made possible are kept

open and unimpeded or unobstructed, for if either the sensory or motor arm of the primary peripheral nerve fiber fails to transmit either the sensory impulse originating in any one or more of the systems of the body to the spinal cord or central nervous system, or the primary peripheral motor nerve fails to transmit the motor impulse from the spinal cord to the outlying systems of the body, functional inharmony must result among the various systems of the body. And this may be quickly or remotely followed by pathological changes in the cellular units of which the system is constructed. That such conditions may arise in the body is clearly illustrated by crossing one knee over the other with a resulting temporary paralysis.

If this condition can be artificially induced in the limb and foot it certainly can likewise be produced in other areas of the body. In this connection it may be interesting to point out the essential differences between the osteopathic and the medical schools. From the standpoint of etiology of diseases, those using internal drugs place great emphasis upon the internal systems as the primary cause for diseases, i. e., respiratory, circulatory, digestive, urinary, reproductive and internal secretory systems, due to infections; whereas the osteopathists place greatest emphasis for the primary cause of diseases in the musculo-skeletal framework of the body, i. e., muscular systems, ligamentous system, fascial system, bony system or nervous system. All the internal or organic system are dependent upon the musculo, ligamentous, fascial, and bony systems for protection and support. Osteopathically we hold that when this protective framework becomes deranged mechanically, as the result of adaptive reactions on the part of the organism to environmental stimuli, it will interfere with the primary peripheral nerve fibers transmitting nerve impulses from the outlying systems to the spinal cord, and with the motor impulses from the cord to the outlying systems, interfering with the proper interactions of the numerous systems of the body with one another. This, of course, weakens the cells and tissues so interfered with and produces suitable soil for the development of bacterial infections. When, in this connection, it is remembered that every nerve impulse to and from the central nervous system must be transmitted to and from the spinal cord by means of the primary peripheral nerve fiber, and as this primary peripheral nerve fiber passes in every conceivable manner through the musculo, ligamentous, and bony systems of the body, it becomes a very easy matter for the peripheral nervous system to become interfered with, destroying the perfect interactions of system with system, tissue with tissue, or cell with cell, resulting in discord, productive of disease, where perfect harmony and resulting health should prevail. This interference with the primary peripheral nerve fiber, then, is not only the chief cause for disease, but is likewise sufficient cause to defeat the efforts of a well balanced central nervous system in the development of its ideo-motor arc by means of which the organism must meet present and future environmental conditions.

Omaha National Bank Bl.

SPINAL MECHANICS FROM AN OSTEOPATHIC STANDPOINT

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This discussion of spinal mechanics is introductory to future articles dealing with the pathology, principles of correction, and treatment of lesions. The writer makes no claim that these articles are entirely original. However, the necessity for keeping the attention of the profession on things fundamentally osteopathic is taken as an excuse for repeating already well-known principles with the addition of only a few new ideas. The author acknowledges his indebtedness to Harry W. Forbes and other osteopaths, and to Lovett's book on "Lateral Curvature of the Spine and Round Shoulders." The spine between the atlas and the sacrum will be considered here.

Anatomical Points

The following are a few anatomical points pertinent to this discussion:

Cervical Region—Transverse processes hook-shaped projecting down in front;

Superior articular facets face backward and upward (sometimes slightly inward);

The bodies are lipped on their anterior lower borders and on their upper lateral borders:

The normal curve in the cervical region in convex anteriorly

Dorsal Region—Transverse processes articulate with ribs except those of the last two vertebrae;

Superior articulate facets face backward, upward and outward;

Laminae and spinous processes are oblique and overlapping.

The dorsal spine is only a part of the thoracic cage, therefore we must consider the ribs:

Upper Ribs—These articulate with two vertebral bodies (except first) and with more or less cupped facets on the transverse processes;

They have short costal cartilages articulating directly with the sternum.

Lower Ribs—These articulate with flat facets on transverse processes except last two, which are free;

The eleventh and twelfth articulate with only one vertebral body;

Costal cartilages are longer than in upper dorsal and attach indirectly to sternum. The last two ribs have no cartilaginous attachment to sternum, being held only by muscles;

The dorsal curve is convex posteriorly, due to the shape of the vertebrae and discs.

Lumbar Region—Superior articular processes are high above the laminae. The facets themselves are high, concave from side to side, facing backward and inward, and are nearly vertical;

Spinous processes are nearly horizontal;

The normal lumbar curve is convex anteriorly, due for the most part to intervertebral cartilages being thickened in front;

The inferior facets of the twelfth dorsal vertebra face forward and outward, as those of a lumbar vertebra, hence it should be classed as a lumbar vertebra since it must necessarily have the same action.

Deductions

Cervical Region—Each vertebra can slide forward and upward on the one below on one side or both, but can slide backward and downward only a slight distance on either side, being prevented by the lip on the lower anterior border catching over the body of the vertebra below, and by the transverse processes hooking over the superior articular processes of the vertebra below;

This prevents dislocation of the cervical vertebrae from sliding too far downward and backward on the inclined superior facets;

The lips on the lateral borders prevent dislocation sidewise and restrict movement of the bodies to that side in rotation;

These several anatomical features constitute a protective mechanism for the cervical spine.

Dorsal Region—The articulation of the head of the ribs is with two vertebrae; the transverse facets are cup shaped, which prevent sliding of the ribs; and the short costal cartilages, which hold the anterior ends of the ribs firmly, make the upper thorax a more or less rigid cage with certain restrictions of movement of its parts, especially bending in different directions. The overlapping of the oblique laminae and spines also restricts backward bending. These factors are so modified in the lower dorsal (smooth transverse facets, long or absent costal cartilages, etc.) as to allow more freedom of all kinds of movement.

Lumbar Region—The high facets on elevated articular processes, the horizontal spines, and the thick discs allow free up and down motion on all sides, flexion, extension, and sidebending. However, the fact that the superior facets face backward and inward restricts rotation, as will be shown later.

Movements of the Spine

Flexion—The relative length of the posterior side over the anterior side is increased; the posterior ligaments are tightened; the inferior facets of each vertebra travel forward and upward on the superior facets of the one below. The normal cervical curve is straightened; the normal dor-

sal curve is increased slightly in the upper dorsal owing to the firmly attached ribs and to a more marked degree in the lower dorsal owing to the more loosely attached ribs. In the lumbar region the normal anterior curve is straightened or made slightly posterior.

In extreme flexion, rotation and sidebending are limited because all the posterior ligaments are tensed, and also because the inferior facets have moved to the upper edge of the superior facets below and are held there, no more space on the facets being available for any other movement.

If a moderate flexion, force be applied to the spine as a whole, the cervical and lumbar regions reach their flexion limit sooner than the dorsal on account of the resistance of thoracic cage. In other words, since the cervical and lumbar regions flex more easily than the dorsal, a moderate pull flexes these regions first; a stronger pull brings them to their limit and is then expanded in bringing the more resistant dorsal region to its limit of flexion. Then, in extreme flexion, the whole spine is locked against rotation and sidebending; in moderate flexion the lumbar and cervical (below the occiput) are locked, while the dorsal region is not.

The practical point here is that if a rotation or sidebending force be applied with the spine in moderate flexion, the induced motion comes in the dorsal region and more in the upper than in the lower dorsal.

Extension—The length of the anterior side is increased and its ligaments are tightened, while the posterior ligaments are slackened. Each inferior facet has moved downward and backward on the superior facet below. The cervical region is locked by the lips on the lower anterior border of each vertebra hooking over the disc and body of the vertebra below and by the transverse processes of each vertebra hooking over the superior articular processes below. The dorsal region is quickly locked by the impaction of the over-lapping laminae and spinous processes.

In the lumbar region, however, since the articular processes are elevated and the facets are high, much more extension is allowed before other movements are inhibited.

Forced extension locks the whole spine because the inferior facets of each vertebra are jammed down on the laminae of the vertebra below. *Moderate extension,* for practical purposes, locks all but the last one or two dorsal and the lumbar. (Keep in mind that the twelfth dorsal is like a lumbar vertebra in its inferior facets and in its movements.)

The application here is that if a rotation or sidebending force be exerted with the spine in moderate extension, the induced movement comes in the lower dorsal and lumbar spine. Remember that it is harder to take all the extension out of the lumbar region and lock it in this way; then in extension, with the rest locked and the lumbar not yet locked, any rotation or sidebend will come to this region.

Respiratory Movements

At this point, it may be well to consider the respiratory movements of the thorax since the dorsal spine is simply a part of the posterior wall of the thoracic cage and the movements of the dorsal spine in respiration are flexion and extension.

In inspiration the ribs become more horizontal; the sternum goes forward and the dorsal spine backward increasing the antero-posterior diameter of the thorax.

In expiration the opposite occurs.

In inspiration the dorsal spine bulges or *flexes* slightly.

In expiration it straightens or *extends* slightly.

This is useful in treating anterior (extension) or posterior (flexion) conditions of this part of the spine.

If no flexion or extension movement is allowed here, the respiratory power is decreased. This is one reason why we have a thoracic cage so constructed as to allow some flexion and extension even though rotation is the chief movement here.

Rotation

A more exact and specific term is rotation-sidebending, since the primary movement is a rotation with a secondary sidebend. The normal axis of rotation of any body passes through the center. Then the

most favorable axis of rotation for a vertebra would pass through the posterior part of the body and would of necessity be vertical. The vertebrae are not always allowed to rotate on this axis, however, for reasons to be discussed later. Keep in mind that we speak of an axis of rotation for purposes of illustration only, pure rotation on a fixed axis never occurring below the atlas.

Cervical Region—We assume rotation to the left. The vertebra tries to rotate on a central axis. It passes forward and upward on the right, but, after a slight backward and downward movement on the left, the anterior lip catches over the body below on the left side and the left transverse process hooks over the left superior articular process below, checking the backward and downward movement on the left. The lip on the superior lateral border of the body below also checks outward and backward movement of the body of the upper vertebra on the left side. Then the axis shifts from the center to the left side and the vertebra continues to go forward and upward on the right, rotating and tilting the bone to the left.

Dorsal—Axis is vertical through the posterior part of the body. The superior facets face backward and outward, approximately as arcs in a circle of which the axis of rotation is the center. They also face slightly upward. We will assume a rotation to the left.

The vertebra passes forward and outward on the right and backward and inward on the left side—the facets being favorably placed for rotation on the central axis—and, since the facets are inclined, it passes upward on the right and downward on the left producing a tilt as well as a rotation to the left. The thoracic cage does not prevent rotation as much as it does bending, including flexion and extension, for the reason that it is easier to twist the cage by rotating its individual segments than to bend the cage as a whole.

Then owing to the placing of the superior articular facets as arcs in a circle of which the most favorable axis is the center, rotation is freer in the dorsal than in other regions, and, owing to this and to the segmented thoracic cage which allows rotation but is resistant to bending, rotation is freer than other movements in the dorsal region.

Lumbar—Rotation in this region is very limited. The articular facets face backward and inward, are concave from side to side, and nearly vertical. Again we discuss rotation to the left.

On general principles the most favorable axis would be central, but, when it tries to rotate on that axis and the right side tries to go forward and outward, the right inferior facet butts against the superior facet below which faces backward and inward. Therefore, rotation on this axis is prevented. The superior facets in the lumbar region are placed as arcs in a circle the centre of which is in or near the base of the spinous process. Then, in order to rotate, the axis must shift from the center to a point nearer the posterior end of the vertebra. Now it is obvious that, on account of the much longer distance from this axis to the front than that from this axis to the tip of the spine, the body must move through a comparatively long distance in order to obtain much rotation. But it is prevented from moving very far by the intervertebral discs and ligaments. Consequently rotation is limited in this region. The slight rotation possible in the lumbar is produced, in rotation to the left, by a sliding forward and inward on the right and backward and outward on the left.

Accompanying rotation to the left we find, experimentally, a tilt to the left. Since the facets are vertical, they cannot account for it. The reason is perhaps as follows: In rotation to the left, the facets on the right are pressed firmly together, while those on the left tend to be separated. With the facets on the left less firmly held and the muscles on the left acting to produce a left rotation, it would seem that the left side might be pulled down. The body weight also would tend to force down the left or loose side.

In the lumbar region, then, in rotation to the left we have a rotation and a tilt to the left. In rotation the facets must be placed

approximately as arcs in a circle of which the axis of rotation is the center.

In the dorsal region this axis is a central or favorable one; in the cervical region it is a lateral one, while in the lumbar region it is near the posterior end of the bone. Therefore rotation in the dorsal is free, while it is limited in the cervical and lumbar regions.

Sidebending

A more specific and definite term is sidebending rotation, since the primary movement is a sidebend accompanied by a secondary rotation. In this discussion we consider the spine a flexible *curved, weight-bearing, segmented rod,* set upright. In such a rod the greatest downward pressure is through the concave side of the rod. Consider the concave side the front and the convex side the back of the rod. Then the segments are subject to a pressure in front while they tend to be separated behind. Bend the rod to the left. Now the pressure is transferred around toward the left side of the segments, while it is relieved on the right side.

At first this shifting of pressure takes place for the most part anterior to the center of the rod, or anterior to the axis of rotation. Under these conditions, when the pressure on the front begins to travel toward the left, with a corresponding release on the right, the front of each segment is forced in the direction of least resistance, which is to the right, or away from the bend.

This produces a rotation in which the concave side moves in the direction opposite that in which the rod is bent. The stretch on the convex or back side of the rod operates to aid this rotation. Remember this stretch is produced by the weight on top of the upright rod. In bending to the left, the whole middle of the rod tends to travel to the right. But the back of the rod, being tightly held by the stretch, will not move as easily; in fact, when the right side begins to tighten, the back will move around toward the left, the direction of least resistance, or to the side being loosened by the bend.

Then in sidebending of this flexible, curved, weight-bearing, segmented rod, the concavity always rotates away from the bend while the convexity always moves toward the bend. The spine is such a rod as we have described with the different regions exhibiting different concavities and convexities.

In the dorsal region the normal concavity is anterior—convexity posterior. Then in bending to the left the bodies rotate to the right or away from the bend, while the spines move to the left or toward the bend.

In the cervical and lumbar regions the concavity is posterior while the convexity is anterior. In bending to the left, then, in the cervical and lumbar regions, the spines move to the right, away from the bend, while the bodies rotate to the left, toward the bend. Bend to the left—spines on concave side move to right; body on convex side rotates to left.

In each region in bending to the left it is obvious that the individual vertebrae are tilted to the left. In the dorsal region they rotate to the right (bodies move to right), while in both the cervical and lumbar regions, they rotate to the left. In each region both the convex and concave sides move in the direction of least resistance—the concave side away from the bend to the side where the pressure is decreasing, and the convex or tense side toward the bend to the side where the tension is decreasing.

Comparison of Rotation — Sidebending (primary rotation) and Sidebending —Rotation (primary sidebending) of Individual Vertebrae.

Cervical Region—Rotation to Left—Forward and upward on the right, rotating and tilting the bone to the left. Sidebending to Left—This tilts bone to the left. The spine, being on the concavity, moves to the right; the body, being on the convexity, moves to the left, giving rotation to the left.

Then in both primary rotation and primary sidebending to the left in the cervical region, the individual vertebrae are rotated to the left and tilted to the left.

Dorsal Region—Rotation to Left—Forward, upward and outward on the right,

downward, backward and inward on the left rotating and tilting the bone to the left. Sidebending to left—This tilts the bone to the left. The body being on the concavity, moves to the right; the spine, on the convexity, moves to the left. This produces a *tilting to the left* and a *rotation to the right*. In rotation to the left the vertebra is rotated and tilted to the left while in sidebending to the left it is tilted to the left, but *rotated to the right* (body to right).

Lumbar Region—Rotation to Left—forward, upward and inward on the right; backward, downward, and outward on the left—the vertebra is rotated and tilted to the left. Sidebending to Left—Bend to the left—this tilts the bone to the left. Spine on concavity moves to the right. Body on convexity moves to the left. The vertebra is rotated and tilted to the left.

Rotation and sidebending are practically the same in the cervical and lumbar regions, but in the dorsal region they differ in the direction of rotation of the vertebrae (naming the direction of rotation from the front). In this connection it may be well to bring out a few points with regard to the naming and diagnosis of lesions.

In the cervical and lumbar regions there is but one lesion for rotation and sidebending in either direction. It matters not whether the lesion be produced by a rotation or sidebend. In the lumbar region, since sidebending is much more important, we may call all these lesions sidebending lesions. Lesions in the dorsal region are named from the relation of the spinous process of the one in lesion to the one below.

Suppose we find a spinous process lateral to the right of the one below with all the other diagnostic points of a lesion present. We know that the body must have rotated to the left. If the bone were held in a position of primary rotation the vertebra would be *tilted to the left*—spine right, body left, and tilted to the left. Again suppose the spine is to the right. The body must be to the left. If the body had been thrown over there by a side bend it would necessarily have been a bend to the right (body goes away from the bend). Then, summing up, the spine would be to the right, body rotated to the left, but *tilted to the right*.

Then in a dorsal rotation lesion lateral to the right the vertebra would be tilted to the left; in a sidebending lesion lateral to the right it would be tilted to the right. The only way this tilting can be determined is by the inter-costal and inter-transverse spaces.

Sidebending lesions, however, will be slight in the upper dorsal for sidebending is limited here on account of the rigidity of the thoracic cage. If a spine is found which is held a considerable distance out of alignment the lesion is in all probability one of rotation. Nevertheless, sidebending lesions do occur here and are troublesome and hard to correct.

In the lower dorsal the sidebending lesion may be easily produced because the cage is less rigid here. The twelfth dorsal acting as a lumbar vertebra allows only sidebending lesions.

Practical Considerations

Extension Locks the Dorsal. Then extend the dorsal when it is desired to use it as a handle with which to apply treatment to the lumbar or when fixation is desired for any reason. *Flexion Locks the Lumbar.* Then flex it when it is desired to use it as a handle on the dorsal or when fixation is desired for any reason.

Forced flexion will lock any part of the spine; forced extension will do the same. Flexion locks the lumbar and lower dorsal before it does the upper dorsal because the latter is prevented by the rigidity of the thoracic cage. If it is desired to immobilize everything but the upper dorsal, flex the spine moderately.

Another point of interest: It is obvious that rotation is in effect a flexion on one side and an extension on the other. By concentrating our force and applying it specifically to correct an extension on the one side, and afterwards, a flexion on the other side, we may get a quicker response than by attempting a corrective rotation.

43 Church St.

CONSERVATIVE SURGERY OF THE TONSIL

JAMES D. EDWARDS, D. O.
St. Louis.

THE dwindling of the "Apothecary shop," and the many obsolete prescriptions found in both the "BP." and "USP.," is very indicative of the fact that materia-medica is nothing but a passing phenomenon and will so be recorded as one of the interesting conditions of the age of superstition.

Almost every "regular" doctor is now ambitious to be a surgeon, and tonsillectomy is another one of those fashionable procedures which affords him an excellent source of ethical income. The "Tonsil grabber," as Dr. Deason has termed it, eventually will want a law demanding that the school children exhibit a sinus-tonsillaris free from lymphoid tissues. A few more such damnable legislative acts will put a horrible discord in the national hymn.

The accompanying plate by Dr. Millard illustrates the advantages of the technique which I am now using to separate the anterior and posterior pillars of the fauces from the tonsil, thus reducing its hypertrophy by releasing the impingement of the subdivisions of the tonsillar artery within the capsule.

This manipulation eliminates the passive congestion within the parenchyma, and influences a marked shrinkage of the interstitial tissue, which will avoid seventy-five per cent. of the surgical operations in the adult, and ninety per cent. of the tonsillectomies in the early youth.

The literature shows a wide divergence of opinion as to the function of the tonsil, and the effect of its complete removal upon the general condition of the patient. Ballenger states that Masini believes that the tonsil has an internal secretion comparable with that given off by the suprarenal gland. He arrived at this conclusion after experiments with the aqueous extract of the tonsil, intravenous injections of which gave the same results as those obtained from the injection of suprarenal extract.

Bearing in mind the anatomical relations of the superior constrictor, palato-glossus and palato-pharyngeus muscles, it is readily seen that the tonsil is subjected to compression with every act of deglutition, and I am of the opinion that this function delivers to the bolus a bacteriocytic ferment, which protects the food during its passage through the upper alimentary tract. The tonsil secretion can be examined by "dry-swabbing" the parenchyma, immediately following the act of empty swallowing; a microscopic picture of which will illustrate the presence of various bacteria, epithelium, bile, and a large number of leukocytes.

Of the organic constituents of the tonsil secretion, the protein exists in small and variable quantities, and its exact nature is not determined; but I am of the opinion that these unknown substances contain a biochemical process, which, when normally delivered, supports an equilibrium between immunity and infection.

The epithelial ingrowth of the tonsil mechanically compresses the meshes of the connective tissue, and by the proliferation and slight irritation it produces facilitates the escape of the leukocytes from the thin walled capillaries and veno-capillaries so

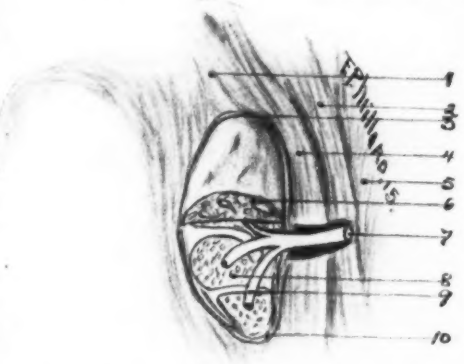

Fig. 1, (F. P. Millard). 1, Fibers of the palatine muscles; 2, Palato-pharyngeus; 3, Supra-tonsillar fossa; 4, Palato-glossus; 5, Sup. Constrictor; 6, Cut surface of the tonsil; 7, Tonsillar artery; 8, Lymph follicles; 9, Subdivision of the tonsillar artery; 10, Fibrous capsule of the tonsil.

formed. The leukocytes are detained in this finely meshed connective tissue, and being well supplied with nutriment, they divide by mitosis in large numbers. The

process of division is influenced by a special arrangement of connective tissue and vessels which develop into "germ-centres."

A blood count of the tonsil showed between 15,000 and 20,000 leucocytes per c.m., while a count from the finger showed 7,000 to 10,000, which unquestionably supports the "Deason hypothesis," that the "Waldeyer's ring" is the paramount protective medium of the upper respiratory tract.

Dr. Deason's tonsillar research suggested the hypothesis that tubercular pulmonic apices may develop via the deep lymphatic chain and the supraclavicular glands, thence to the parietal lymphatic vessels, where a bacteriolysis would develop across the visceral pleura to the apex of the lung.

Traces of coloring matter injected into the tonsil were shown by autopsy in the blood, lymphatics of the pharynx, hyoid, cervical, thoracic, parietal pleura, hilus of the lung and visceral pulmonary glands.

The cardinal consideration in bacteriology are as follows:

(a) Lowered resistance;

(b) Avenue of entrance of infective agents;

(c) Virulence of same;

(d) Number.

The osteopathic lesion lowers the resistance, and develops the pharyngo-tonsillitis. Furthermore, the tonsil being peculiarly susceptible to infectious diseases, becomes, therefore, the atrium of infection for a great variety of diseases extraneous to itself. Hence, considering the lymphatic association, it is readily seen that any surgical procedure would afford an excellent "avenue of entrance" for the swarms of bacteria harboring within the pharynx.

The tonsil, when hypertrophied, tends to develop towards the middle line where no resistance is encountered, and to effect but little change in its external relations. The mass, often mistaken for the enlarged tonsil in the neck, is formed of enlarged submaxillary glands, which receive the tonsillar lymphatics, and are almost invariably enlarged in all tonsil affections.

The hypertrophied tonsil may affect the patency of the Eustachian tube by disturbing the soft palate and the tensor palati muscle, which is the musclar support of the pharyngeal orifice. The decomposition of retained epithelium and food within the crypts produces the foetid breath, and calculi formations will excite a spasmodic cough; the glosso-pharyngeal nerve conveys the afferent impulse to the respiratory centre.

Dr. Deason's researches relative to the "Waldeyer's ring" in connection herewith is given in the following language:

> Probably not more than five per cent. of cases of tonsillitis at most demand operation. I am thoroughly convinced that at least 95 per cent. of cases of tonsillitis might and can be successfully treated by the finger method, by passing the finger back of the tonsil, and with one hand on the outside of the neck, beneath the angle of the jaw, thus causing counter pressure, the drainage, both lymphatic and venous, and the blood and nerve supply, can be sufficiently normalized to restore the tonsil. In the acutely inflamed tonsil I do not manipulate the tonsil itself. In the chronic hypertrophied tonsil, massage of the tonsil directly is of some value; but it is my opinion that the treatment of re-establishing the drainage is of greatest value. I have treated a great many cases of tonsillitis in which this method has been thoroughly satisfactory, and in fact I have not had a single case which was not greatly benefited.
>
> Whether the tonsil produces an internal secretion, which is of great value to the adult or not, it most certainly does have such a function in the growing individual, and I think tonsillectomy is contraindicated under the age of fifteen. It might be argued that by the finger method of treatment of tonsillitis the results would not be permanent. This however is not true, for I have had many cases which have been affected systematically for years, which have responded completely to the finger method of treatment. For example, a girl, now fourteen years old, who has been confined to her bed for a number of weeks each year for the past eight years with quinsy, has not had a single attack during the past winter. I could cite a number of cases of this type which have resulted from the finger method of treatment.

The *Annals of Otology, Rhinology and Laryngology,* for September, 1914, page 593-594, reports an interesting series of twenty-six cases of tonsillectomies, which were followed up two or three years after the operation. The results of a study of this series of operation conclusively shows that certainly not more than ten per cent. of the tonsillectomies accomplished what the opertion intended. On the other hand, the report further shows that many detrimental

reactions, such as retarded growth in children, chronic aural suppuration, frequent laryngitis, suppurative olfactory fissure and naso-pharynx, eczema narium, retracted membrana tympani, hypertrophic laryngo-pharyngitis, mentally subnormal, strabismus, cervical adenitis, deviated septum, prognathism, diphtheria, mumps, mastoid abscess, calcareous membrana tympani, tuberculosis, retarded menstruation, deformed arch, mouth breather and various constitutional disturbances have resulted.

Fig. 11. (F. P. Millard). Forefinger separating the plica tonsillaris and pillars of the fauces from the tonsil.

To reduce the enlarged tonsil, the nail of the forefinger should be trimmed below the cushion, and the phalanges thoroughly cleansed and lubricated with some mild antiseptic fluid; the finger being inserted into the oral cavity, the first phalanx, is directed to the supra-tonsillar fossa, and by a gentle manipulation from above downwards, through both antero- and postero-tonsillar fossae, the plica and pillars of the fauces can be separated from the parenchyma, which will release the impingement of the subdivisions of the tonsillar artery and venous drainage.

The surgical trauma, which frequently follows this procedure, can be alleviated by the use of submaxillary ice packs, cervical and upper dorsal relaxation, also by swabbing the tonsil with a 25% solution of argyrol.

CENTURY BLDG.

INTERNAL SECRETIONS

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Los Angeles

A FEW years ago it would have been an easy task to have encompassed the whole field covered by the subject in a brief paper, but today in the time allotted to it I can do little more than present a general summary. The history of the development of our knowledge of internal secretions is extremely interesting and I desire to call your attention to a few significant facts in this connection.

The views of those early pathologists known as the humeral pathologists are full of suggestions. That these men had some vague conception of the chemical relation between different organs but in later developments (chiefly microscopic) these were almost wholly lost. Even much earlier than this a belief in extracts of tissues of certain organs indicates a belief in this same fundamental principle.

Early in the last century we began to acquire a more intimate knowledge of the finer structure of animals and with the improvement of the microscope and the advent of staining methods we were soon in possession of detailed knowledge of the body structure. This naturally led to many queries and speculations as to the functions that were not possible before the acquisition of this knowledge of structure. One that aroused much interest was the possible functions of the ductless glands. The early literature on the subject is full of speculations to the effect that they were remains of struc-

Address before the Philadelphia Sessions of the American Osteopathic Association, August, 1914.

tures that functioned during the embryonal state; that they were but relics of evolution or that they represented areas of tissue that had failed to develop properly and were mere inclusions in the normal tissue.

The development of a knowledge of embryology dispelled the belief in the first view. The study of comparative anatomy made the second untenable and the constancy and regularity of the findings overthrew the latter. The recognition of that general biological principle first stated by Johannes Müller, that cells which do not function do not long survive, stimulated physiologists to continue their investigations. But little was discovered until the experiments by Schiff in 1856 in which he performed thyroidectomy on animals and noted the invariable serious if not fatal results, thus proving conclusively that the thyroid performed a function that was absolutely necessary to the well being of the animal.

Not until the Swiss surgeons, Reverdin and Kocher, reported (in 1882) the results of this operation on man did the physiologists appreciate the far-reaching importance of this subject, and the interest thus stimulated was followed by the development of what are now classical experiments, namely: the removal of the gland and the administration of the extract, thus preventing the appearance of the disturbances or their disappearance if they are present at the time of its administration; and, second, the engrafting of the gland anywhere in the body after it has once been removed prevents absolutely the development of the symptoms following removal.

When the fact that they did function was conclusively proven, naturally attention was turned to the more important questions of what was their particular function. At the present time the literature on this subject is so large that it presents a monumental task to review it; but is well worth while, as in my judgment it represents the largest and most conclusive volume of evidence in support of the contention of the venerable founder of our system of practice that the human organism is a laboratory capable of elaborating all the chemicals necessary or useful for resistance, relief and recovery. Dr. Andrew Taylor Still never gave utterance to a bigger truth and it is one which some of his weak-kneed followers would do well to consider carefully.

Standing out rather clearly in this mass of literature are a few theories that are worthy of more careful analysis. Let me enumerate some of them: That the internal secretions are to be viewed as especially prepared foods; that they are anti-substances; that they are transformed poisons; that they operate solely as chemical stimuli.

In the first speculation, let us note the marked disturbance in the nutrition of the muscles and nervous system in destruction or removal of the thyroid gland, the trophic disturbances of the skin and sympathetic ganglia in destruction of the supra renals, the atypical growth of the bones in disturbances of the hypophysis.

In the second and third, note the marked evidence of intoxication in removal of the thyroid, as evidenced by the changes in metabolism and excretion, the tetany when the parathyroids are removed, the toxemia of pancreatic diabetes.

In the fourth, note the tachycardia and fine rapid tremor in hyper thyroidism, the marked exaltation of metabolism upon the injection of the extracts from the supra renals, ovary or testes, the marked vaso constriction upon the injection of supra renal extract. The recent work of Powlow and Starling demonstrates the considerable part played by the internal secretions in the regulation of the secretions of the alimentary tract; the injection of the extract of the true corpus luteum occasioning the usual changes of pregnancy in the non-pregnant female.

All the foregoing observations indicate the complex and varied nature of the chemical substances provided by the body for its own use. That there is an immense volume of work yet to be done before this mass of evidence may be made to yield to us the classified facts that pertain to the part played by each of these secretions in the complex reactions going on inside the human body can readily be seen from a brief survey of the varied opinions held by the leading physiologists.

To the practicing physician the most interesting aspect of this subject is its clinical application. The administration of thyroid

extract in myxodema and cretinism is so well established and so successful that no comment need be made, but it must be noted that in not another instance is the use of extracts an unqualified success and I wish it understood that I mean to include the various serums that have at one time and another been so widely exploited.

Of course where a gland has been entirely destroyed or removed from the body, the use of extracts, if proper ones can be obtained, is the only hope of overcoming the defect but where the mechanism, whole or in part is intact it seems to me the logical course to discover why its function is in excess or deficit, and then if possible establish the conditions that will permit it to function in the normal manner. Let me direct your attention to something that is no doubt commonplace to many of you, at least I have observed it so frequently in our clinic that I have come to express few doubts as to its success. What I refer to is the results in the treatment of exophthalmic goiter. I have examined a very large number of these cases, having observed heart rates from 100 to 180, with tremors varying from scarcely perceptible to so violent as to shake every part of the body. I have never failed to find well defined lesions in the lower cervical and upper dorsal region, upper rib and clavicular lesions and it is the rare exception in which improvement is not marked by the correction of these lesions. One case stands out so clearly that I must give it to you in brief:

A lady, 28, with all the well defined symptoms came to me in 1904; there were several lesions, but the one around which the interest centers was a second dorsal. Upon correction all the symptoms disappeared. The symptoms reappeared in 1907; an examination revealed only a second dorsal lesion, upon correction of which she again recovered, only to have the trouble return in 1913, at which time there was to be found only the second dorsal lesion. Its correction again led to the disappearance of the symptoms and this time no other treatment was given.

I have been watching with interest some of the more recent speculations regarding the cause and development of chronic interstitial nephritis. It was formerly believed that the initial pathology was in the kidney, but more careful analysis has indicated that the vascular changes antedated the changes in the kidney in many cases. It has long been a matter of common knowledge that a very large proportion of the cases died from hemorrhage or heart failure and comparatively few from deficient kidney function. The remarkable changes in blood pressure due to the injection of glandular extracts, especially adrenal, is suggestive of a possible relationship between disturbed internal secretions and chronic interstitial nephritis. We have long since ceased to believe that the universal cause was alcohol or a meat diet. That they may be contributing causes or serve to overload deficient kidneys is more likely their proper relation.

Many of you have had the experience of treating these cases on general principles and have observed the fall in blood pressure the restoration of a normal circulation and kidney function. Have you ever asked yourself what you did that was responsible for the recovery? Have you attributed your success to the dietetic regimen you established? Let me make a speculation that I think is worth your consideration. It is a well-established fact that a very considerable part of the regulation of blood pressure and heart action is accomplished through the operation of chemical stimuli, i. e., internal secretions. A disturbance of these might readily lead to the extensive changes in the vascular system, the changes in the kidney being in the vascular structure primarily and only secondarily in the parenchyma, that characterize this disorder. Now is it not plausible that in the correction of spinal lesions and the relief from this abnormal stimulation that the integrity of one or several of the internal secretions is restored, thus stopping the progress of the disease and through compensation and adaptation the normal functions of the kidney, heart and other organs is restored.

Since it is the request of the program committee that in this paper I present something for discussion and then review the subject more in detail to be published in the JOURNAL, I am forced to suddenly terminate what to me is the discussion of a very interesting subject.

COLLEGE OF OSTEOPATHIC PHYSICIANS AND SURGEONS.

DISCUSSION

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I REPEAT Dr. Spencer's last words—a very interesting subject. Indeed I believe that the subject of internal secretions is destined to become the major half of diagnosis and therapeutics, as it is already the major, if the little known, half of physiology.

Dr. Spencer brings up the subject of exophthalmic goitre, with specific lesions; and I wish to confine my brief discussion largely to that. In the case he cites, the second dorsal was clearly a specific lesion; which makes this case of more practical value to me than any others so far reported. Physiological centres do not vary from man to man—it is merely a question of being sure of the accurate location of them.

More and more in my experience is impressed upon me the fact that lesions are amazingly specific. This is not to say that there are not many lesions that could produce a given disorder, for there are. But in the great majority of cases of one kind there is one lesion that is almost constant; or the lesions will all centre around one particular point, which becomes more and more evident as more records accumulate. This is the specific lesion. Lesions to either side of this can affect the same organ, but very probably through extension of irritation, or extension of mechanical strain to the true centre.

Of course it is not the lesion that is specific, but the physiological nerve centre. The body is built in segments and each organ belongs to a definite segment. Although its nerve connections may have ramified largely through the whole body, they are still primarily right at that point, where they can be reached directly. Different functions of the same organ may be controlled from different centres, but each of these seems to tend, in my experience, to narrow itself to one particular centre.

The work of the Bureau of Statistics for this year bore out this idea very strikingly. The more cases of appendicitis it gathered the more clearly did the eleventh dorsal stand out as the specific lesion, or centre. And when the successful were compared with the unsuccessfully treated cases, this point was most clearly apparent. The extreme variations in individual skill in diagnosis, the immense variety of cases collected over so wide an area, all did not prevent but rather emphasized the clearness of this conclusion.

The same thing was true of the work of the bureau for last year, on Asthma. The same thing is true, according to report of those who are most familiar with the work of the operators in our oldest school, of the specific character of the work there.

Now the inference from this, if true, is vastly important. It means that without the accurate definition of these different specific centres, a large part of our work may be wasted; or at best our results delayed—which means a borderland of cases lost that might have been saved. It means that we should with all speed and patience define these "centres;" it means that whether or not a lesion is detectable at such point, treatment should be directed to that centre; for there are many forms of lesions that are masked; and lesions may even be purely nervous. It means also that where there are several lesions, we should direct our first attention, in acute cases certainly, to the known centre of the organ most affected.

Taking up Dr. Spencer's case of goitre, then, with its very clearly defined centre at the second dorsal, if, with this in mind, we will refer to the clinical records of Dr. Ashmore's collection—the only ones available, and the most valuable literature that this association has yet published; and will examine the cases of exophthalmos reported there, we shall note that Dr. Spencer's specific lesion is emphatically corroborated.

Eight cases were reported there. Four were collected by Carl P. McConnell. Of these four, three showed lesions that included the second dorsal. The other one showed 5th, 6th, 7th cervical lesions. Of these three, two were cured in two weeks and one year respectively; the other was much benefited, but suffered recurrence in one year. The fourth case, with the 5th, 6th, 7th cervical lesions, discontinued treatment after six months, having been greatly benefited.

One case reported by A. Still Craig showed

Address before Philadelphia Sessions of the A. O. A., August, 1914.

very posterior upper dorsals. There was steady improvement for three months. One case reported by A. B. Hobson showed lesion at the first dorsal, among other lesions. In two months there was much improvement. One case reported by Ella McNicoll showed posterior upper dorsal and rib lesions, and was cured in three months. One case reported by E. D. Burleigh showed third dorsal lesions among others, and was much improved in three months.

If we may be permitted to regard the first and third dorsals as probably including the second, with our not yet consistently followed system of naming, then this second dorsal is the only lesion that is at all constant. It is indicated by the cases so far reported as the specific lesion for exophthalmic goitre.

In view of our very great need of further records of such cases, let me urge upon the profession the adoption of some uniform method of making examinations and of recording them. This is by no means so difficult as it may seem. It requires only a flexible tape line, plus common sense. This tape line may be placed with the figure 0 over the spine of the seventh cervical vertebra and held there by hand or by means of a strap whose ends the patient holds. It does not really matter at what point one begins. Then a record is taken of markings at the tip of each spine. The thumb is pressed in below and against the tip of each spine, and the figure that first appears above the thumb nail is recorded. It requires common sense to determine the corresponding points on the successive tips, as the shapes vary somewhat, and there are individual variations. This marking will be reasonably accurate to within an eighth of an inch.

Then in a column parallel to the first, reduce these to the intervals, so many eighths of an inch from first to second, so many from second to third, etc. A graphic picture of the lesions of that spine will be found to have been made. It will be found that lateral variations also can be marked accurately to within an eighth of an inch. It will be found that many lesions are brought clearly to notice that were not even detected by digital examination. The fingers do not measure longitudinal intervals very well. It will be found, I think, that there is a whole class of lesions that we have entirely neglected. It was the case with myself, and certainly I have so far seen no records of such lesions—namely, separations and approximations in the longitudinal axis. It will be found, I think, that when there are lateral lesions, they show very clearly in the approximation and separation measurements, perhaps more so than in the lateral measurements. Meanwhile, the tape lying on the axis of the spine, serves as a guide to make easy the detection of lateral lesions.

This measurement may be supplemented by examination of the transverse processes and ribs. It may be said that if the spines are normal, there is very little likelihood of lesion existing, for it is unlikely that a lesion would occur to just the same distance and in exactly the opposite direction to that in which a spine was bent. Markings made in the erect position may be compared with markings made in the flexed position, or in the recumbent position, and rigidities clearly defined in this way.

Along this same line, the determining of centres, let me urge another thing on the profession. By making a digest of all that has already been said on his given subject, a speaker could bring it down to date, and the profession might keep up with itself. He might then add his own commentaries or contributions, or criticisms. The excellent work of Dr. Ivie, in preparing an index of osteopathic publications would prove invaluable in such a custom. If each speaker or writer were aware of the fact that his words are a contribution, in however small a way, to a great American Text of Osteopathic Experience, slowly forming, he would perhaps take just that much more interest in his subject, and present things of practical value. If such a text were formed, then every address or article bearing on its subjects should be regarded as amendment, addition, commentary, criticism, or verification thereof. That, you will observe, was the spirit in which the first part of Dr. Spencer's paper was written.

The foundation that we lay now will be the enduring foundation, to a large extent, throughout the ages that osteopathy is des-

tined to inherit. It will be more and more difficult to change the fundamental spirit of our work and the fundamental style of our organization, as more and more is accumulated in the spirit and by the organism. We should give some thought to the style of that organization, from the scientific point of view—which is after all our real concern, much more than constitutions and elections of officers.

We are coming to base our articles and addresses more and more on our experiences, as experiences accumulate and begin to show forth definite ideas. A definite osteopathic pathology is taking shape. We want to be in position to take advantage of every contribution along that line. We want to have the effective machinery therefor. After all that is our real scientific business—much more than to verify on animals things we have already proven on men. Specific centres or other points of use in the handling of human diseases, observed by one man and verified by many others, are the things of value to us. It would be easier if we knew precisely what points we needed to have proven. Doubtless we shall come to the point where we can send out a circular letter asking for experiences on a given point on the first of the month and by the end thereof have a resume of the experience of a thousand men. But it will require mass-psychology, pressure of public opinion, the recognition of a common need and a common duty, and of an effort to satisfy that need, in which all share. It will require, perhaps, first of all, for the men of influence in the profession to recognize the need of this sort of force, to recognize that it goes along infinitely better if it floats, as one might say, on a tide of feelings of fellowship in the performance of duty.

In view of the discussions heard in the Preliminary Conference, let me continue this a moment. It touches very nearly several of the problems that came up there. We have gone energetically about every one of the things that our more human instincts lead us to—the perfection of the organization of our already wonderfully organized profession—planning further development of our already remarkable legal achievements, criticising our schools, approving of our Institute—but these are not the things that will make or fail to make our professional and personal success. They are merely the organization of successes already achieved. If we direct our forces to building on that success more than to increasing that success, we shall soon grow automatically top heavy. And when the higher organizations of human thought and purpose turn turtle, the lower forms of life such as sharks, charlatans, etc., grow fat.

Motives of academic pride, of sheer imitation of medical standards, of compromise with the forces met in legislative halls, made us compel our schools to lengthen their courses. Had our motive been osteopathy purely, we would have given them the material that an osteopathic student needed to know, and required that the course be long enough to teach it. Instead of that, we automatically created a vacuum. Into this two-year vacuum rushed the things that were ready—medicine and surgery.

Now, it was certainly up to us who are having the actual osteopathic experience, to supply the schools with the material to fill up those lengthened courses. We, as much as the schools, are the natural guardians of the science in which we are engaged.

In any case, the *hard* job is the developing of the clinical aspects of the science; and it is a thing that three thousand men can do infinitely more easily than three.

USE AND ABUSE OF FOODS

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CAUSE is one of the most important phases of knowledge to be worked out. It is the key to every situation, and in the study of the art of healing, finding it means success. Not to know the cause means absolute failure. Simon-pure osteopaths proclaim in chorus that spinal adjustment is the keynote in removing the cause of disease. We osteopaths herald from the housetops that we are skilled mechanics, body engineers.

Address before the Western Pennsylvania Osteopathic Association at Pittsburgh, April 3, 1915.

That osteopathy assists nature and explains the intricate nervous system and teaches if one of these tiny nerves or blood vessels is interfered with pain or disease is the result; that it regulates the human body; that the healthy body is a natural chemical laboratory; that the osteopath is the natural chemical physician of the human body; that the osteopathic physician understands hygiene, food and diet, are facts we should keep before our patients and the public.

Let us keep spinal adjustment in mind; let us put our beautiful human machine into perfect harmonious working order. But how long will it be able to perform its daily functions unless we as real physicians are capable of directing the proper plan of living in each case? I feel certain that by giving attention to spinal conditions only, however scientific and specific we may be, we will never acocmplish the great results of which we are capable if we do not take time to ferret out the patient's environment, past and present history and habits, and adjust these to him where we can, and help him to adjust himself to those which cannot be changed.

After straightening out the kinks and lining up the spinal column, why should our patients keep coming back complaining of the same old trouble, the same old pains, and we find a return of the same old contractures, and often a return of the same bony lesions? I believe the reason is because we are not treating the *entire cause*. Sick people must be cured in the mind as well as body. A diseased mind must be adjusted with the spinal adjustment. It must be disciplined. It must be brought back to normal. A mind that is full of worry, hate, envy, spite or malice, reacts upon the nervous system and causes derangements of various kinds. And there is but once cure—remove the cause, for the mind must be poised, or the body is bound to suffer. Then, too, each sick person must eat what he needs, not what the family eats.

Let us hold ourselves out only as bone setters, or let us awaken to the fact that we are expected to fulfil the duties of real physicians, as we proclaim ourselves to be. We insist that our patients cut out headache tablets, pills, pepsin and digestive tablets and all the so-called dope. But what are we doing toward directing their diet to prevent fermentation and auto-intoxication that every osteopath contends with daily? Fill up your automobile gasoline tank with a mixture of gasoline and nitro-glycerine—what will you expect? Yet we daily allow our patients to combine their foods that have the similar dynamic reaction and keep on readjusting structure to equalize our circulation and innervation, and at times are astonished at the inharmony of results.

Science cannot tell us how much food a sick individual needs. A sick man must be treated according to his temperament, his present habits, his present needs. Neither will spinal adjustment, poise nor proper food supply the deficiency caused by close housing, ill ventilation and neglect of the skin by improper bathing, over clothing or sleeping under too much covering. Now, then, after considering all things mentioned, every patient is still a law unto himself in diet. How much digestive and assimilating power each body has will always remain a subject for experiment.

In my experience, I think much of my grey hair has been caused by over considering the question, "What shall my patients eat?" After exhausting the standard dietic work, I was still just as much at sea as to reliable combinations, until I learned of Tilden's Rational Food Combinations. Those of you here, who read the *Stuffed Club*, and own one of his new books on food will hear nothing new as I wish to make no secret of my stolen plunder. Those of you who are not familiar with Dr. Tilden's Common Sense Drugless Healing, will be glad I am sure to investigate for yourselves. I hope the time is near when every osteopathic school will teach these ideas of food. It may be well to give Dr. Tilden's Four Rules before going any farther:

(1) Never eat when feeling bad; (2) Never eat without relish; (3) Avoid over-eating; (4) Thoroughly masticate and insalivate your food.

I also add in his own simple words, "People out of health should eat very few va-

rieties at one meal. And fruits cooked or raw should be eaten in a meal by themselves; bread or other decidedly starchy foods should constitute another meal; and meat, fish, fowl, game, eggs or nuts with the cooked non-starchy vegetables and a salad should constitute the dinners." A sick patient may look weak and hungry, and his digestion may be in a state of complete suspension. He may have no power to assimilate and thus by feeding him you are shoving him into the grave. Remember pain or discomfort of any kind, either mental or physical, causes suspension of digestion. And right here is one of the most important factors to consider in study of diet. When food fails to digest it takes on fermentation and the acidity is immediately absorbed and causes an over stimulation of the nervous system. What is the result? Food poisoning (auto-intoxication) added to the "already poisoned system." As bone setters we need nothing but what the name implies. As a true osteopathic physician, we need everything we can absorb in the line of technique, psychotherapy, hydrotherapy, hygiene and diet. When we all accept food poisoning as a consideration as important as innervation we will be able to revolutionize the whole healing art. The word innervation brings to the osteopath's mind a train of spinal lesions.

Let us consider food poisoning (auto-intoxication) as an essential part of the treatment along with our adjustment and we will hasten the cure one-half. Excess in all lines causes enervation. Enervation causes sluggish functioning with a lack of secretions as well as excretions. A retention of excretions causes the constitutional state of auto-intoxication (food poisoning). When a sick patient tells you he has no appitite be devoutly thankful. Have him practically fast until appetite returns. Do not be afraid to have your patients fast. Fasting is no cure-all. When no organic change has taken place, relief may be given by fasting; but pushed to the extreme, great harm may be the result. Always fast your patients when in pain or feeling badly. Always keep in mind that digestion is suspended when one is in pain or discomfort, and if food is given at this time, fermentation is the result, and the acid is absorbed by the nervous system. The gas produced by this fermentation causes distention of bowels, sluggishness of liver, dizziness, giddiness, heart palpitation and a constant train of symptoms that the osteopath finds every day.

Do not be afraid to fast your patient with colds, la grippe, tonsillitis, acute bronchitis and children's diseases, as long as there is a rise of temperature. Feeding in pain or rise of temperature only intensifies, prolongs and complicates these diseases. Fasting gives nature a chance to clean house and assists elimination and absorption. The wise physician will soon learn that to feed a patient who is unable to dispose of the food is only forcing the body to use up nerve energy in order to free itself of waste products. And when the poisoned debris is not carried out of the system, you only overwork the already exhausted nerve energy in trying to get rid of it, which is usually impossible. And you then have greater poisoning and through this overstimulation there is still greater nervous prostration. In my opinion outside of the "Full Milk Diet" in nervous prostration, a forced diet only adds to the already autotoxemia you are trying to fight.

The season of the year must always be considered in diet. The summer months require one-half the amount of food needed in cold weather. Fruit and the succulent vegetables should make up three-fourths the quantity; and the fewer varieties at a meal you can satisfy your patients with the more rapid the recovery. The enemic, thin-blooded people, who complain of cold hands and feet and general chilliness are always food-poisoned, and in cold weather these people must cut out acid fruits and substitute sweet prunes, sweet evaporated pears, dates, figs and raisins. If constipated, these fruits must be soaked and let come to a boil before eating.

Right here I might add we cannot be too positive in urging the necessity of cooking fruits, meats and vegetables so as to save their nutrition. Meats must be broiled, stewed slowly until almost dry, or roasted

in a savory roaster. Vegetables should be either steamed or cooked slowly (to prevent the mineral salts from escaping) in just enough water to prevent scorching; so when done, they are practically dry. Dress them with a little butter or olive oil as simply as possible to avoid taxing digestion. Much has been written on the meatless diet. Here again the patient is a law unto himself, as climate, occupation and pathology must be considered. I have yet to be convinced that anything is gained by a meatless diet in a changeable climate.

Meat is not an oxygenated food; therefore when eaten in excess, or even sparingly by the sluggish liver type and lazy breathers, look out for fermentation. Therefore, could much meat be an ideal food for those not in active life, or those of sedentary habits, shallow breathers, or lung disease? Hence, the necessity of combining the oxygen carrying non-starchy vegetables and combination salads with a meat meal.

Meat and starch of any kind is a bad combination. Combinations of meat and starch, two highly stimulating foods, produce over-stimulation, resulting in uric acid followed by enervation, auto-toxemia (food poisoning). Meat conbined with two non-starchy vegetables and a combination salad may be eaten once daily in the cold weather season, but in the summer months every other day or less is sufficient. When nuts are substituted for meat, combine coarse bread to furnish the albuminoids required. Fat meat does not possess tissue building material, hence whole wheat bread, corn bread, dry beans or peas or peanuts may be combined to make up the albuminoid sufficiency.

The salt, or so-called cured, meats and fish are not so nutritious as fresh meats. They are robbed of their soda and potash; hence the vegetables that carry these elements should be used freely with such meats. Cabbage carries more potash and soda than any other vegetable. Beets, lettuce, celery, spinach, kale, dandelion and watercress are especially rich in soda and potash.

Too much cannot be said of the importance of fruits and non-starchy vegetables, keeping the human organism healthy in mind and body. A sound body must be furnished with tissue building salts, which can be had only from fruits and vegetables, using a preponderance of acid fruits in summer and the vegetables in the winter. When constipation has to be contended with, fruits must always be stewed and raw vegetable salad must be avoided. Cooked spinach and onions should be alternated each day, with the dinners.

I find Eugene Christian's Vienna Breakfast Food or bran muffins very valuable for the starchy meal in severe constipation. Also the Vienna Bran may be used with the stewed fruits with the obstinate cases of constipation. In winter two large cups of plain hot water or hot water with one-third milk and a little sugar should follow the dinner and this may also follow other meals if milk or buttermilk is not taken. In summer cool water, not iced, may be used instead of the hot. In summer lemon or lime water without sugar may be drunk freely. In winter only the full blooded patients may be benefited by lemons or limes. Always insist that the water be as soft as can be had.

Obesity is brought on by food poisoning and lack of tissue salts, such as are found in raw fruits, vegetable salads and whole wheat bread. Patients who suffer from fermentation and gas should not eat yeast breads. Any well baked biscuit, muffins, or gems, made with baking powder or soda, are a God-send to the acid or vinegar manufacturing stomach. But they must not be eaten with a combination of acid jellies, preserves or fruits. Starches and acids do not digest in the same medium. Nor does it matter how stale or dry or how powdery yeast-made bread is taken, it is just as liable to ferment where these acid conditions exist.

Remove your patient's mind from fear-thought and insist on the fruit meals and starch meals at different times. But you positively cannot mix fruit and starch and expect a cure where you are fighting fermentation. I insist that patients who overeat use salt sparingly. Salt being a min-

eral food, it has a tendency to harden tissues. Outside of this, it stimulates the appetite to over-eat. Meat requires little salt. Vegetarians need more salt than meat-eaters. As vegetables carry a large amount of potash, they need enough salt to decompose the excess of potash intake.

In curing or controlling catarrh or any of the catarrhal tendencies, as lymphadenitis, adenitis, colitis and all visceral inflammations, cut down the amount of salt to the minimum; along with salt cut down meat and sugar and heavy starches on account of their stimulation, irritation, and substitute acid fruits in preponderance in summer, and non-starchy vegetables in winter.

There is no doubt that sugar is shamefully abused as a food. If starch and fruits are eaten each once per day we get all or more sugar than the system requires. Dr. Tilden emphatically protests that all catarrhal inflammations of mucous membranes in children's diseases, rheumatism, arthritis, obesity and bladder irritation. cane-sugar on fruit, breakfast food, or in tea and coffee is responsible. If children crave sugar and sweets, as they usually do, give them an occasional meal of pure candy or sweet fruits, followed by a glass of milk. But do not give sweets with starch or following a fruit meal.

Children may have cereal or bread two meals a day, or if fruit is not eaten, three meals a day. In summer, cup custard, ice cream or prune whip may be eaten with fruit. In cold weather sweet prunes, raisins, figs, dates with cottage cheese or mild cream cheese, followed by a glass of milk. For dinners children may have two non-starcy vegetables (cooked), combination salad, baked potatoes (Irish or sweet), macaroni, corn or whole wheat bread. Once or twice per week leave the starch out and give fish, lamb, chicken or eggs. If children are fed in this way and not allowed to eat between meals, their nervous systems cannot be poisoned and they will be likely to escape from the ordinary children's diseases. Of course, hygiene in bathing, proper ventilation and clothing are to be considered.

Of course we can only expect results by being positive in our advice and treatment. When patients tell me they positively cannot give up tea and coffee (when in that particular case it is absolutely necessary), that they cannot eat without their bread at each meal, and potatoes with their cooked meat, and that they cannot eat non-starchy vegetables, and I diagnose their case very serious, I refuse to treat them, and as a general thing they finally come back and beg for treatment.

Just a little summing up of a few thoughts I wish to leave for further consideration. Half a volume might be written in explanation of Dr. Tilden's four rules:

(1) Never eat when feeling badly.

(2) Never eat without a relish.

(3) Avoid over-eating.

(4) Thoroughly masticate and insalivate your food.

Fruit and the dairy products may be combined at one meal. Only one of the heavy starches as potatoes, rice, dried peas, beans or lentils, any breads made from wheat, rye, oats or corn must be eaten at one meal. Cereal should be eaten with no sugar or as little as possible. If cooked, with milk one-third cream. The flaked foods, puffed rice or wheat or shredded wheat biscuit may be toasted until crisp and eaten with a little butter, but no milk to soften. A starch meal may be followed by a glass of sweet milk or a cup of hot water, one-third milk with a little sugar.

Meat should be eaten with a combination salad and two non-starchy vegetables from following list—carrots, spinach, onions, beets, cabbage, cauliflower, summer squash, parsnips, tomatoes, green peas, string beans, corn on cob, kale, asparagus, salsify, eggplant, dandelion, endive, water or land cress and all kinds of greens. When constipation exists, raw salads must be avoided and cooked onions or spinach eaten with every cooked meal. Unless there is a large flow of saliva and gastric juice, it is safest to drink one or two cups of water after eating before digestion is well begun.

Any of the succulent vegetables can be used in the combination salad. When Dr. Tilden's own combinations are used you cannot go far wrong. In summer, lettuce, cu-

cumbers, tomatoes and onions. In winter, celery may be substituted for cucumbers and cooked tomatoes for the raw. The more simply the salad dressing the more valuable. Oil and lemon juice is perhaps the best. Cold slaw may be used with oil dressing or dressing made of lemon juice and sweet cream whipped together.

This paper has been prepared from several years' experience of faithful care of combinations given here. Dozens of cases could be cited where marvelous results have been effected by strict laws of combination of food. It is not my intention in any way to depreciate the value of spinal treatment or lesion adjustment of any type whatsoever. But let us as true physicians broaden the study of cause and not be satisfied with the idea that by adjusting and straightening out the kinks that our patients are going to stay cured. Let us teach our patients the value of poise, mentally and physically, and the use and abuse of food. Teach mothers the great necessity of caring for and feeding their children properly. Teach your patients how to keep well, when you once have ferreted out and removed the *Cause*.

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THE TEACHINGS OF DR. STILL

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The Science of Osteopathy

(Continued.)

Etiology

PROBABLY the most interesting part of the scientific teachings of Dr. Still is that of etiology. Herein is revealed the divergence of the osteopathic school from other methods of the healing art. We are too prone to look upon the art of osteopathy, the technique, as the characteristic feature of this system. Of course, technique is only a means to an end. It must be based upon the viewpoint of disease causation.

Throughout all of the teachings and writings of Dr. Still the dominant note is the "Why" of disorder. In all of the changes and fluctuations of disease, the primal thought, the anchor, if you will, that makes things possible, is the immutability of nature's laws. This is never lost sight of no matter what change or vagary is presented. Every symptom, every sign is but the expression of absolute law; this is fundamental. This much is vouchsafed us, and it behooves the physician to pay obedience to the absolute laws of physical behavior and to charter his course accordingly. This is the basis of freedom, the recognition and the interpretation of the laws; otherwise confusion or worse will be the result.

We believe the osteopathic interpretation of etiology constitutes a most solid basis for the superstructure of the healing art, for it is nothing more or less than a mechano-physiological revelation of nature's intent. There is nothing chimerical or fanciful in its claims, much less a vagary that occupies an occasional niche; quite to the contrary it rests upon all the possible physical expressions of the organism. Such an appreciation touches life at innumerable points, in fact, is basic in just so far as the life principle is dependent upon the expression of physical laws; and this at the very least includes the physical mechanism.

Mazzini compared genius to the fabled tree of Teneriffe, "whose branches discharged showers of refreshing water," and the more we can shake these branches, the greater will be the appreciation of the really fundamental work of Dr. Still. With all of our added advantage it is difficult to keep to the true course. By noting this we gain some idea of the wonderful work demanded of a genius in blazing a trail. In order to gain a worthy view Fabre states the modus operandi most vividly:

> One should never rely upon a lucky chance, which may not occur again. We must multiply our observations, check them one with the other; we must create incidents, looking into preceding ones, finding out succeeding ones and working out the relation between them all: then and not till then, with extreme caution, are we entitled to express a few views worthy of credence.

Biologically, to Dr. Still, it is the fitness of things, the how and why, that is of special interest. From Aristotle to Huxley and the present the essence of the work of the master naturalists has been the fitness of

nature's efforts. A study of the several parts of an organism is to secure some knowledge of the "How" and "Why." In addition to this, Dr. Still attempts to make a therapeutic application of this knowledge. All of this combined is the essence of the science and art of osteopathy. He tells us:

If health is perfect, it only proves perfect harmony in the physiological action of the body in all its parts and functions. Any variation from perfect health marks a degree of functional derangement in the physiological department of man. Efforts at restoration from the diseased to the healthy condition should present but one object to the mind, and that is to explore minutely and seek variation from the normal. * * * In nature we look for good machines in form and action. We have learned to know that nature does no imperfect work, but, on the other hand, does its work to perfection, and perfection is its watch-word in all parts and functions. The wise man has long since learned that no suggestions he can offer do any good, but, as a rule, are vastly harmful. He often kills or ruins the machine to such a degree that it fails in part or in whole to do its work. He finds his supposed helps have disabled his man or woman even to death. [Hence, the often worse than uselessness of drugs]. * * * It's the connected oneness in receiving blood and other substances and appropriating them to the duties of constructing machinery to receive gases, blood, and other substances and associating them in such a manner that they become the living corpuscles of construction, not only with the ability to build up muscles, but all parts of the body. [It is the perfection of the organism and the connected oneness that is the keynote to osteopathic practice. Every part has a duty to perform not only for its own maintenance but also for the health and harmony of the concatenated whole. This is part of the law of supply and demand, which is absolute through all nature.] It is important to know the exact place that each organ occupies in its normal position. It is only by knowing the normal are we enabled to detect the abnormal. Each organ seems to be a creator of its own fluid substances. We must know the nerve and blood supply and the drainage. * * * All organs must work in perfect harmony to produce health. Health requires the continuous action of every organ, all nerves, all blood-vessels, all lymphatics, and the secretory system, and all the excretory system, in order that when the united produces are thrown into the thoracic duct or any other duct that conveys lymph or any other fluid, from the many thousands of cells and channels through which it is passed, will become as a unit.

Thus in the most exact and precise sense there must be both physiological and mechanical harmony of not only the part, but of the unified whole. There is no quibling of the issue; "osteopathy is knowledge, or it is nothing." Individuality of tissue and structure is gradually becoming generally recognized. The reciprocal dependence of individual organs and the probability that each kind of cell has its own structure is well shown in Aberhalden's "Defensive Ferments":

It is quite probable that, at present, being too much concerned with the phenomena of strucural chemistry, we observe the processes in the cell from a too one-sided point of view, and think too little of the physical state of the cell. * * * The structure and configuration of the separate compounds (chemical), and of the separate units of the cell are of the greatest importance for its individuality. To this we must add, and as partly conditioned by the above, their structure and configuration in the physical sense. A separation of the chemical and physical properties of the cellular units is impossible, since they constitute mutually the conditions of life for the cell. They stamp it with its own character.

Not only is this true of the cell, but of the different organs as well. With due observance of environment, habits and diet, the osteopathic practicalness of this knowledge is the mechanically conditioning of structure, for structure determines function. Richet, in "Anaphylaxis," says: "Each is himself, and not another. Each has his idiosyncrasies, or, to put it better, his humoral individuality, as well as his psychological individuality, to differentiate him."

Dr. Still premises his work upon the perfection of nature. He asks if man has added one jot to the perfection of nature? Certainly not. Nor is there the least likelihood of his doing so. It is only through the fitness of things can we arrive at any practical understanding of nature. Even with the most advanced evolutionists the controversy does not seriously hinge upon added physical perfection, but instead upon changeful sequence and mental development. Dr. Still asks:

Does nature do its work to a finish? If so, we have a lasting foundation on which to stand. Then we must work to acquaint ourselves with the process by which it proceeds to do its work in the physical man. Not only to make a well-planned and well-builded superstructure, but care for and guard against the approach and possession of foreign elements, that either cripple or hinder

perfect action in all functions of the organs to form *protective compounds* that will ward off the formation of fungus growths (micro-organisms) of blood and flesh before the latter can get deadly possession of the laboratory of animal life. * * * I do not wish to disprove their existence, but wish to take such witnesses and try to prove that all such abnormal changes have a cause in suspension of arterial or venous blood, or lymph, the excretory system, or by their nerve-supply being cut off at some important point of the physical body. A clean shop is just as necessary to good work as the skilled mechanic is to construction of the part desired.

There should be no question where Dr. Still stands on this much debated point. This was his idea many years ago, and it is exactly the ground that all advanced thinkers occupy today. There is no need to go into a discussion of the subject of bacteria. Devitalized tissue is the predisposing cause, the necessary medium, to bacterial invasion. The osteopathic lesion is without doubt the great underlying cause. He emphasizes the importance of pure milk, in fact, of all foods; the importance of well ventilated halls, churches, and houses; the harmfulness of mental worry and shock; anything that impairs perfect functioning increases "the great combat between life and death." He says:

A cause must precede an effect in all cases. Cause is older than effect, and is absolute in all variations from normal conditions. * * * The student will ever remember that no action can be suspended in the arterial supply and venous drainage and not leave visible marks by such failure. [Circulation and nerve supply are the dominating factors that maintain a healthy individual.] * * * Motor nerves must drive all substances to a part and sensation must judge the supply and demand. Nutrition must be in action all the time and keep all parts well supplied, or a failure is sure to appear. * * * [This maintains unity.] As one delves deeper and deeper into the machinery and exacting laws of life, he beholds works and workings of contented laborers of all parts of one common whole.

To obtain a working knowledge of the healing art, it must be a study of anatomy first, last, and all the time. "The osteopath must remember that his first lesson is anatomy, his last lesson is anatomy, and all his lessons are anatomy." He then asks and answers the important question:

What is osteopathy? It is a scientific knowledge of anatomy and physiology in the hands of a person of intelligence and skill, who can apply that knowledge to the use of man when sick or wounded by strains, shocks, falls or mechanical derangement or injury of any kind to the body. An up-to-date osteopath must have a masterful knowledge of anatomy and physiology. He must have brains in osteopathic surgery, osteopathic obstetrics, and osteopathic practice, curing diseases by skillful adjustment of the parts of the body that have been deranged by strains, falls, or any other cause that may remove even a minute nerve from the normal, although not more than a thousandth of an inch. He sees cause in a slight anatomical deviation for the beginning of disease. Osteopathy means a knowledge of anatomy of the head, face, neck, thorax, abdomen, pelvis, and limbs, and a knowledge why health prevails in all cases of perfect normality of all parts of the body. Osteopathy means a studious application of the best mental talents at the command of the man or woman that would hold a place in the profession. It belongs to men of sober brains, men who never tire of anatomy and physiology or of hunting the cause of disease. An osteopath answers questions by his learning. He proves what he says by what he does.

With a correct knowledge of the form and functions of the body and all its parts, we are then prepared to know what is meant by a variation in a bone, muscle, ligament, or fiber or any part of the body, from the least atom to the greatest bone or muscle. By our mechanical skill, preceded by our intelligence in anatomy, we can detect and adjust both hard and soft substances of the system. By our knowledge of physiology we can comprehend the requirements of the circulation of the fluids of the body as to time, speed, and quantity, in harmony with the demands of normal life. * * * Each piece must be so shaped that in union with all other pieces a complete running engine will be made, not by chance, but by the rule of animal engine-making. When complete, he is self-acting, individualized, separate personage. We know that if we ever know the whole we must first know the parts.

It is difficult for the uninstructed to appreciate the extensive application of osteopathic applied anatomy, for indeed this implies the art of osteopathy. He can readily see the application of the science in gross instances, but when carried to minute detail he naturally has not the tactual experience and appreciation. This is all a matter of degree. What applies to the gross equally validly applies to the detail part. To Dr. Still

disease means anything that makes an unnatural (abnormal) showing in the body—overgrowth of muscle, gland, organ, physical pain, numbness, heat, cold, or anything that we find not necessary to life and comfort. How to find causes of diseases or where a hindrance is located that

stops blood is a great mental worry to the osteopath when he is called to treat a patient. An osteopath, in his search for the cause of diseases, starts out to find the mechanical cause. * * * To repair the machine signifies an adjustment from the abnormal condition in which the machinist finds it to the condition of the normal engine. As osteopathic machinists we go on no further than to adjust the abnormal conditions to normal. Nature will do the rest. * * * With anatomy in the normal properly understood, we are enabled to detect conditions that are abnormal. It may be that by measurement we can discover a variation one-hundredth of an inch from the normal, which, though infinitely small, is nevertheless abnormal. If we follow the effects of abnormal straining of ligaments, we easily come to the conclusion that derangements of one-hundredth part of an inch are often probable of those parts of the body over which blood-vessels and nerves are distributed, whose duties are to construct, vitalize, and keep a territory, though small in width, fully up to the normal standard of health. The blood-vessels carrying the fluids for the construction and sustenance of the infinitely fine fibers, vessels, glands, fascia, and cellular conducting channels to nerves and lymphatics, must be absolutely normal in location before a normal physiological action can be expected in perfect harmony with the health sustaining machinery of the body. If a nerve or vessel should be disturbed, we would expect delay and a subsequent derangement in the workings of the laboratory of nature. Thus we recognize the importance of a thorough acquaintance with the large and small fibers, ligaments, muscles, blood and nerve-supply to all the organs, glands and lymphatics of the fascia, and the blood-circuit in general. We wish you to make yourself so thoroughly acquainted with the human anatomy that your hand, eye, and reason will be unfailing guides to all causes and effects. We wish to impress upon your minds that this is a living and trustworthy symptomatology, and not speculative. * * * This is the book of symptomatology that I wish you to purchase. Use it in place of all others. Its price is eternal vigilance.

Now, Dr. Still tells us that "physiological facts of functioning and mechanical skill are the points to observe in noting the beginning of diseases." One can readily appreciate that pressure on arteries, veins and nerves as a resultant of jars, twists, strains, etc., from accidents may easily compromise the integrity of tissue and organ, but there are other factors that Dr. Still is constantly emphasizing. "Inhibition is almost universally the cause of disease," and "edema marks the first tardiness of fluids." Atmospheric changes, in his opinion is a prolific source of disease initiation.

The two extremes, heat and cold, may be the cause of retention and detention. One is detained by the contraction of cold until the blood and other fluids die by asphyxia. The warm temperature produces relaxation of the nerves, blood, and all other vessels of the fascia, during which time the arteries are injecting too great quantities of fluids to be renovated by the excretory system. Then you have a cause for decomposition of the blood and other substances. You have a logical foundation and a cause for all diseases, catarrhal and climatic, contagions, infections and epidemics. The fascia proves itself to be the probable matrix of life and death. When harmonious in normal action, health is good; when perverted, disease results.

There can be no question that cold and heat profoundly affect the organism. The disturbance to the nervo-muscular system may be marked, especially by an inhibitory effect upon the vaso-motors; this if prolonged lowers resistance and favors bacterial invasion and growth. An important link in the pathology is the mechanical one, for example in cold, contraction directly of the skeletal muscles as well as of fascial tissues; this disturbs innervation, and in turn circulatory channels, and so on directly and reflexly, by the various interactions and reciprocal conditions, vicious circles are established. Nature may be able to meet the combat unaided; but in more serious conditions where resistance is profoundly lowered by prolonged exposure or previous conditions, or by unusually virulent microorganisms extraneous aid must come to the rescue. The characteristic osteopathic measure aside from hygiene to re-establish harmony is the mechano-anatomical one; this follows logically the etiological factor.

Disease is just as liable to begin its work in the fascia and epithelium as at any other place. Thus the necessity for pure blood and healthy fascia, because all functions are equally responsible for good and bad results. From the lowest cellular membrane to the highest organ of the body. * * * When all kinks are straightened out, giving the strong arm of nature full charge of the work of righting all wrongs and establishing the normal, beyond which man knows nothing, then we can reasonably hope for recovery; * * * a knowledge of osteopathy will prepare you to bring the system under the rulings of the physical laws of life. * * *

Has not your acquaintance with the human body opened your mind's eye to observe that in the laboratory of the human body the most won-

derful chemical results are being accomplished every day, minute, and hour of your life? Can that laboratory be running in good order and tolerate the formation of a gall or bladder-stone? Does not the body generate acids, alkalies, and all substances and fluids necessary to wash out all impurities? If you think an unerring God has made all those necessary preparations, why not so assert yourself, and stand upon that ground?

Suppose venous blood is suspended by cold or other causes in the lungs to the amount of edema of the facia; another mental look would see the nerves of the fascia of the lungs in a high state of excitement, cramping fascia on to veins, which would be bound to cause an interference with the flow of blood to the heart. No blood can pass through a vein that is closed by such resistance, nor can it ever do it until the resistance is suspended. Thus the cause of nerve-irritation must be found and removed before the channels can relax and open sufficiently to admit the passage of the obstructed fluids. In order to remove this obstructing cause, we must go to the nerve-supply of the lungs, or other parts of the body, and direct our attention to the cause of the nerve-excitement, and that only, and prosecute the investigation to a finish. If the breathing be too fast and hurried, address your attention to the motor nerves and then to the sensory, for through them you regulate and reduce the excitement of the motor nerves of the arteries. As soon as sensation is reduced, the motor and sensory circuit is completed and the labor of the artery is less, because venous resistance has been removed.

The nerves of sensation become irritated by pressure and lack of nutriment, and "a strain of the tissues may be of such a character as to cause an impaction of the fluids." "Cold confounds the harmony of the nervous system." It acts as a wound or shock to the vaso-dilators, causing them to give way to the constrictor nerves. Such shocks will irritate the nerve-terminals of the mucous membrane of the lungs, and through this effect disturb circulatory channels.

Take the region of the neck:

If I say treat the cervical and facial nerves, I do not mean that you must rub the neck and hold down the muscles. I want you to adjust the bones of the neck and let the blood flow to and feed the nerves and muscles of the neck and stop the constrictures that have been holding the blood in check until it has died for want of air. * * * This venous blood must be sent to heart and lungs for purification and renewal. The operator is supposed to come into this important battle, where local life is to be saved by increasing the vital force and supplying pure and healthy blood. He should halt and establish himself for observation as a seeker of the cause of this local delay in circulation, venous or arterial, and in the nerve action, because in these three are the powers to supply the vital fluids and remove the exhausted. Vital forces must have access to the veins and arteries going to and from this irritating overplus of blood, fluids, and gases that are occupying the spaces in the skin, membranes, lymphatics, fascia, superficial and deep. * * * On the wisdom of his conclusions previous to action depends the good or bad results that he will produce in diminishing the deadly supply through wisdom, or increasing the same through ignorance or inability to reach the positive cause of the constricture that has shut down the windows, doors, or openings through which nerve-force comes from the spinal cord and other branches from the brain, for the purpose of giving energy to the blood in either venous or arterial action. He must know that if a hardness of the fleshy substances in the locality is found, that a stricture is caused by the nerves of constriction, and that this constricture proves itself to be strong enough to restrain the passage of blood to and from the locality in which this destructive fermentation is doing its deadly work. The philosopher will seek the plexus of nerves which controls the blood and nerve-supply and the drainage through the venous and excretory systems. He must remember that he is dealing with a spasmodic constricture of the muscles, and that this constricture forces bones together with such power as to draw muscles and fibers strong enough to force the bones so far to the right, left, front, or rear as to produce a damaging pressure on the nerves as they issue from the brain and spinal cord, whose duty it is to keep the fluids in harmonious action for all purposes. The constrictures produce asphyxia and fermentation of blood. * * * The more we know of perfect drainage of the human body, the more satisfactory will be results obtained by keeping up the natural drainage, which should be perfect at all times. * * * Our success as osteopaths in treating depends altogether upon good nerve-action, blood-supply, and normal drainage.

The first search for this knowledge would confine us to the bony system, in order to see if any lesion presents itself by any abnormally large place or places. First examine the neck, because of its position and connection with the brain, which is the physiological source through which nerve-force is supplied and suited to the convenience of the heart, to assist in delivering such burdens as it may send forth to nourish and sustain the body. Every articulation of the neck should report itself to the skilled operator as absolutely normal. He should remember that there are hundreds of ligaments in the neck, and that any strain or twist may produce an irritating tangle of nerves that should be wholly free to keep up the functional action of the glands that are so numerously distributed in the region of the neck, throat, and jaw. A scalenus, sternomastoid, an omohyoid muscle may be irritated to

contraction sufficient to disturb the nerves of the constrictor muscles, which, when tightened down upon the blood channels and nerve-supply, would cause a dangerous constriction and stop blood and other fluids from passing to and from adjacent parts, to a degree of congestion followed by fermentation, which universally attacks all stagnant fluids of the body. He who has educated his eye and hand to carefully explore the neck and detect and adjust variations is the man who is armed and equipped to bring relief to the child or person suffering with throat or glandular diseases of the neck. Your knowledge of anatomy has taught you that the hard and soft parts of the neck were put there for a purpose, and must come up at all times and in every place to the plans and specifications of this great and important division of human health and happiness. It is your eye of reason and your finger of touch that I exhort to be instant in season and out of season. You must know what a neck is, with all its parts and responsibilities, or you will fail in proportion to your lack of knowledge, not theoretical, but practical, which you can only obtain by experience.

One writer says that you must stimulate or inhibit the nerves here for lost voice and there for weak eyes, here for sore throat, and this set of nerves for cough, that set for caked breasts, and so on. I wish to emphasize that when I say you must treat the neck for fits, sore throat, headache, dripping eyes, and so on through the whole list of troubles whose range can be found in slips of bones of the neck between the skull and first dorsal vertebra. I mean, if you know what a neck is, to treat that neck by putting each bone of the neck in place, from the atlas to first dorsal, and go away. You have done the work and all the good you can. Reaction and ease will follow just as sure as you have done your work right. Begin at the head and start at the first bone of the neck, and don't guess, but know that it sets squarely on the second bone. Now go up that neck with your fingers and push all the nuscles of the neck into their places. Blood and nerves will do the rest of the work. Follow this course twice a week, and don't fool away any time fumbling to "stimulate and inhibit."

In the foregoing paragraph Dr. Still makes clear his opinion of the relative merits of adjustment as opposed to stimulation and inhibition. This point has been extensively discussed in osteopathic literature. Upon the whole there can be little question that adjustment includes by far the greater field. Very likely, with a number, the confusion has been between the physiological indication, stimulation and inhibition respectively, and the therapeutic method of correction. In other words, they have overlooked the fact that adjustment or normalization will establish health via stimulation or inhibition, in accordance with the physiological requirements. Nature readily and spontaneously takes care of the latter point just as soon as adjustment removes the irritation or inhibition. Probably in most instances the lesion first causes irritation, and which is soon followed by inhibition. But here we should not lose sight of the fact that some nerves are inhibitory in character while others are stimulatory. Then probably so called osteopathic mechanical stimulation and inhibition attempts is sort of an echo of drug therapy methods.

If you find no lesion or cause equal to the trouble, then you have been careless in your search, and should go over the work again. Carefully look, think, feel and know. * * * Everything must be true in all joints. * * * There can be no variation from the normal, or trouble will appear. We should keep with us a living picture of the forms of each vertebra, how and where it articulates with others, how it is joined by ligaments, and what blood-vessels, nerves, and muscles cross or range with it lengthwise, because from overlooking a small nerve or blood-vessel you may fail in curing many of the diseases. * * * The limit of the ravages of the disease can only be described by the anatomy of the whole human body, with its physiological and anatomical systems of blood, both to and from the heart, as directed by such vessels and delivered by the forces of the nerves. * * * Like the sensitive plant, these nerves cause the machinery of life to dilate when it receives its nourishment, and contract just as surely when assailed by enemies that would inflict injury.

That traumatism is a factor of etiology is self-evident. We are placing considerable emphasis on other causes, for they are not commonly recognized or appreciated in their entirety. Over-fatigue and the slumped posture are closely allied, although the latter may be due simply to carelessness; if both are long continued, without attention to rectification, the bodily mechanism is certain to become distorted. This will mean functional impairment of both nervous impulses and circulatory freedom; in a word, nervous equilibrium and vascular equalization will be disturbed by lack of thorough functioning of the skeletal tissues. Abuse and disuse of both static and dynamic requirements will be followed by irritation and contraction and contracture of soft tissues; this soon results in impairment of organic life.

The mechanical link in the pathologic chain, through rest and hygiene, as well as by actual adjustment, requires careful attention. This is an important part of therapy and requires considerable experience to fully appreciate its far-reaching effects.

Just as soon as contraction and contractures are initiated, whether by faulty posture, over-fatigue, cold, infection or what not, an unbalanced muscular action and equilibrium results with various concomitant pathologic changes of the related nervous and vascular supply. Following muscular imbalance on the mechanical plane, it is but an extension of the forces to disturb alignment of the osseous tissues. This malalignment, if long continued, initiates changes in the ligaments and connective tissues to the extent of causing a greater or less anchorage of the malpositioned tissues. Thus by slow degrees we find osseous subluxations of largely the same character as those induced by traumatism. The anchored malpositioned tissues and structures, the same as deformity from slumped states, are exaggerated or perverted physiological states, following mechanically, the same physical laws of normal physiology; but carried to such a position and state that health and harmony, normality, is compromised. Logically, correction means a return of these tissues to normal position. This is exactly what nature attempts to do, and exactly what the osteopath attempts to do in his efforts at readjustment.

Relative to the deep-seated effect of cold, Dr. Still says:

> We will bring in the child of a few summers from the mother's breasts and set it down with the pelvic, gluteal, and lower spinal nerves on the cold ground, which is electro-magnetic without a doubt, but just as reliable in its effects and as mysterious in its methods of procedure in producing a deadly shock upon the pudic and lower spinal nerves and starting it on its deadly work. Thus we bruise or chill the nerves of the rectum, because it is the nature of cold to contract tissues. We will proceed from the plexuses there and journey upward, to observe the powerful action these nerves exercise over membranes, ligaments, and fibers. A powerful shock is surely received by the fascia, with its cellular and lymphatic systems, which extend to every muscle. It is the fascia that I am speaking of now, and I want you to hold it in your memory because of its universality through the whole human body. The fascia has much to do in feeding its own and other nerves, even on to the spinal cord, which is the one great conductor from the brain. The harmony of the nerves which the spinal cord throws off must not be tampered with, be they sensory, motor, or nutrient. By an irritation of those nerves you are warned to look for danger. The constrictor nerves, that have already produced constriction at the buttock, are as sure to reach the lungs, with their overpowering quantities of albumin, fibrin, and asphyxiated blood, or bruise is certain to extend to and cause constriction of the kidneys and leave them in a spasmodic condition, during which time they cease to receive and excrete all substances not healthy in the territory they should drain. So far we find constriction of bowels, bladder, and all membranes and muscles of the abdomen and all its organs. In croup we find both kidneys drawn convulsively together, forming a pyramid over the aorta, vena cava, and thoracic duct. We find the buttock of the chill extremely cold, with no arterial action below the crus. On examination, we find the diaphragm constricted, rigid and tight. We find the diaphragm almost inactive during spasmodic croup. Here I think I am warranted in saying that the spasmodic action beginning at the buttock and extending to the diaphragm has been presented plainly enough so that you can fully comprehend what I think is the initial cause of croup. A shock to the nerves of the cellular system and their contents when unloaded and carried to the lungs becomes deadly from the fact of the resistance the blood receives at the diaphragm. The deposits called membranous deposits are exuded matter from the cellular system to the mucous membrane of the trachea and lungs, with their appendages.

All of this demands not only direct local release of constriction, but attention to the spinal cord circuit. There will be found muscular contraction along the spinal column as a reflex effect, which in turn further compromises nervous impulses.

The true test of an etiological factor is the clinical one. Bedside work is the proof of "the etiological pudding." "Make yourself a child of enquiry and a student of nature" is the constant admonishment of Dr. Still. It is the placing of one's self in partnership with nature that secures results. Only through and by nature can any results be secured. An understanding of her laws is the only possible method of intelligent co-operation; otherwise results are secured more or less inadvertently. "I think before all diseases pass the zenith, after

which the decline is beyond the vital rally, they are curable by the genius of nature's own remedies, and believe the truths of this conclusion have been supported by daily demonstrations." Take the acute disease of dysentery, what is the mechanism, aside from bacterial action, that produces the intense vaso-paralytic dilatation?

At what point would you work to suppress the sensation of the colon and permit veins to open and allow blood to return to the heart? Does irritation of a sensory nerve cause vein to contract and refuse blood to complete the circuit from and to heart? Does flux begin with the sensory nerves of the bowels? If so, reduce sensation at all points connecting with bowels, stop all overplus, keep the veins free and open from cutaneous to deep sensory ganglion of the whole spine and abdomen. Remember the fascia is what suffers and dies in all cases of death by bowels and lungs. Thus the nerves of all the fascia of bowels and abdomen must work or you may lose all cases of flux, for in the fascia exists much of the soothing and vital qualities of nature. Guard it well, so it can work to repair all losses or death will begin in fascia and through it pass supplied by the excretory system.

We reason that the veins have contracted by nerve irritation and fail to convey blood to the heart on normal time. By which delay decomposition does its work. Thus a cause is seen for excreting fluids by motor action of bowels, when supplied by the excretory system .

There is edema of mucous membrane of all glands and blood vessels belonging to the lower bowel. As quiet is the first thing desired, the osteopath will direct his attention to the sensory nerves of the colon and small intestines, in order to reduce the resistance of the veins and diminish the arterial action. When he has diminished sensation of the veins of the bowels, the arterial force completes its circuit through the veins back to the heart, with much less arterial action, because venous resistance has ceased and the circuit is normal, and healthy action is the result. The osteopath will govern sensory and motor nerves by digital suspension of the abnormal irritability of the sensory nerves on the various parts of the spine as indicated by the disease. [To the osteopath the indications are evident].

Freedom of joint motion, elasticity of muscles, flexibility of ligaments, resiliency of all tissues are necessary to health maintenance. These are the conditions that aid in nervo-muscular tone, vascular patency, and poise of body. Then there is the visceral structure and position that must be considered.

Can an organ be normal and be starved? Can an organ be normal and be twisted, when it is naturally straight? Can an organ be normal and another organ prohibit the blood from coming to nourish that organ, to keep it strong and active, that it can do its part and assist other organs when one depends much or little on the other for assistance? Can an organ do its part with other organs pressing on it too heavily? I have asked a few questions pertaining to organic action and life, because nature is a school of questions and answers, which seems to be the only school in which man learns anything.

The osteopath must get the right viewpoint. It is easy to get lost in a maze of half truths, or to drift rudderless on a sea of facts; there must be orientation.

We say disease when we should say effect; for disease is the effect of a change in the parts of the physical body. Disease in an abnormal body is just as natural as is health when all parts are in place. [We should view the combined soft and osseous tissue as a physiological unified whole.] * * * We must be sure that every bone is lined up and in its proper position, not held to the right nor to the left by any muscular contraction which would follow irritation to the muscles or its nerves. [as well as direct traumatic damages to the various skeletal tissues.] * * * The machinist or engineer who would conduct the human body from the abnormal condition which is disease, to the normal which is health and happiness, must think and do as a mechanic or his effort will be a failure. * * * The more we know of the architecture of the God of Nature, and the closer we follow it, the better we will be pleased with the results of our work.

(To be Continued.)

14 W. Washington St.

THE PORTLAND MEETING

At this time the General Arrangements Committee wishes to submit the hotel accommodations and rates which will be in force for the Nineteenth Annual Convention of the A. O. A., the first week in August. We append hereto the list as agreed upon and will urge all those expecting to attend the Convention to make early reservation. This is important, as the summer tourist travel will be heavy on account of the Exposition. Portland has the best of hotel accommodations, but in order to be well taken care of, one should make early reservations.

We unqualifiedly recommend the Multnomah Hotel, the official Headquarters, as first choice for those attending the Convention. This hotel is a few blocks from the

other hotels and as it covers every need and is so complete, large and attractive in every way, it not only will save much time for those who have rooms there but because of their generous care of our Convention in placing the entire mezzanine floor at our disposal for the Convention purposes, we wish to fill the hotel to the roof. Manager H. C. Bowers is one of the most famous hotel men of the Pacific Coast, and we have his assurance that he will do everything possible for the comfort and pleasure of our guests. This great hotel has between 500 and 600 rooms, and we have a guarantee of 250 rooms with the understanding that additional rooms are at the disposal of visiting osteopathic physicians under the same privileges as other tourists, "first come, first served." As will be noted, rates at the Multnomah are very satisfactory.

Hotel Multnomah

I will give in detail the Multnomah rates. Rooms with bath, one person, $2.50; two persons, $3.50. Two rooms with bath between, two persons, $2.50 each, four persons, $1.50 each. Small bedrooms, no bath, one person, $1.50. Larger rooms, no bath, $2.00, *either one or two persons.*

Our committee also entered into arrangements with four of our other Class A hotels, and while there are a number of smaller hotels scattered over the city, we believe no better rates can be secured and the comforts would not be as great as in the hotels selected.

Hotel Benson

Rate: One person in room, with bath, $2.50-$5.00; two persons to room, with bath, $4.00-$10.00; one person to room, without bath, $2.00-$3.00; two persons to room, without bath, $2.50-$5.00.

Portland Hotel.

Rate: One person in room, with bath, $2.00-$4.00; two persons to room, with bath, $3.00-$7.00; one person to room, without bath, $1.50-$2.00; two persons to room, without bath, $2.50-$3.50.

Hotel Oregon

Rate: One person in room, with bath, $2.00-$3.50; two persons to room, with bath, $3.00-$5.00; two persons to room, without bath, $1.50-$2.00; two persons to room, without bath, $2.00-$2.50.

Imperial Hotel

Rate: One person in room, with bath, $2.00-$3.50; two persons to room, with bath, $3.00-$5.00; one person to room, without bath, $1.50-$2.00; two persons to room, without bath, $2.00-$2.50.

We again recommend making early reservations, otherwise you may be disappointed in not being able to stay at the hotel where the Convention crowd is located. Above rates on European plan.

F. E. Moore, D. O.,
Chairman, Gen. Arrangements Committee.

THE WAY TO PORTLAND

To the Osteopathic Profession:

We are greatly surprised to find other roads than those selected, sending literature announcing a specially prepared trip to the Portland meeting.

Your Transportation Committee, after considering the advantages of every road, selected the official route from Chicago to Portland. They selected these lines because of unquestioned service they could render and because of the fact that they offered more as a short trip than any other line. Your Committee still believes that the selection made was the best for our purposes and heartily urges all who attend the meeting to co-operate and make this trip not only pleasant and profitable considering you meet so many en route on this train, but it gives the profession the benefit of the publicity which numbers bring.

From the Southwest there will be some who perhaps cannot join this party, but we urge all who can to mobilize in Chicago and "follow with the crowd" to Portland. Confer with your State Transportation Committeeman, names printed in recent issues of the Journal, and make arrangements for reaching Chicago in time for this special train.

The roads selected as the official route are the Chicago and Great Western to St. Paul and the Great Northern from St. Paul to Portland.

Schedule.—Wednesday, July 28th—Official train leaves Grand Central Station, Chicago, 11:45 P.M.
Thursday, July 29th—Arrive St. Paul at 1 P.M.
Leave St. Paul via Great Northern, 1:30 P. M.

Saturday, July 31st—Arrive Glacier National Park via Great Northern Railroad at 6 A. M. This is the second largest of our national playgrounds comprising an area of 1,500 square miles, and the grandeur of the scene is said by good travellers to be the equal of anything in this country or Switzerland. A one day tour of the Park will give you an idea of its grandeur.

Entire day in tour of Park; all expenses is $8.25. Members who prefer may remain at Glacier Park Hotel for the day; all leave Park via Great Northern at 8 P. M.

Sunday, August 1st—Arrives Spokane via Great Northern, 6 A. M. Arrive Seattle via Great Northern, 6 P. M.

Leave Seattle via Great Northern, 12 midnight. Arrive Portland via Great Northern, Monday, August 2nd, 6:30 A. M. Breakfast and dinner on train a la carte; dinner table d'hote.

Rates.—Tickets from Chicago to Portland and return via direct route through St. Paul, Omaha, or Kansas City, but not including San Francisco, $62.50.

Trip to San Francisco and San Diego included, $80.00 for the round trip. Sleeping car rates from Chicago to Portland, upper berth, $11.20; lower berth, $14, providing ample accommodation for two people.

Sleeping car reservations should be made early, also if the tours suggested in these articles in recent issues are to be taken, deposits should be made at once to the undersigned.

E. J. PRATT, D. O.,
Chairman Transportation Committee.
GODDARD BLDG., CHICAGO.

PROGRAMME

NINETEENTH ANNUAL MEETING, AMERICAN OSTEOPATHIC ASSOCIATION

Hotel Multnomah, Portland, Oregon,

August 2-6, 1915

MONDAY

10.00 A. M.	Entire forenoon and afternoon devoted to business sessions Board of Trustees, Research Institute, all Delegate Bodies and Business Sessions of all Alumni, Class and Fraternal Organizations. The social sessions of these latter should be held on Wednesday night. For assignment of rooms for these meetings, correspondence should be to Dr. Gertrude L. Gates, Halls Committee, Portland.
8.00 P. M.	Public Session in Opera House.
	Outline of History of Osteopathic Practice.....CHAIRMAN
8.15 P. M.	Popular Health Lecture.....R. KENDRICK SMITH
8.30 P. M.	Stereopticon Lecture, "Backs, Eyes, Ears, Tubercular Joints..T. J. RUDDY
8.50 P. M.	"Osteopathy and Insanity".....A. G. HILDRETH
9.10 P. M.	"Some Nervous Diseases in Moving Pictures".....J. IVAN DUFUR
9.30 P. M.	Informal Reception, Convention Hall, Multnomah Hotel.

TUESDAY

9.00 A. M.	Invocation, Address of Welcome, Response, etc.
	President's Address.....C. A. UPTON
10.10 A. M.	Etiology of Osteopathic Lesion.....CARL P. MCCONNELL
10.40 A. M.	Osteopathic Treatment in Pneumonia .....GEORGE LAUGHLIN
11.10 A. M.	Discussion from floor.
11.20 A. M.	Gymnastics in Osteopathic Practice.....EVELYN R. BUSH
11.45 A. M.	Informal discussion.
12.00 M.	Recess.
2.00 P. M.	Serum Therapy Relative to Osteopathic Practice.....S. V. ROBUCK
2.25 P. M.	Informal discussion.
2.35 P. M.	Pressure Anaesthesia; Substitute for Twilight Sleep.....M. E. CLARK
3.00 P. M.	Address—Orthopedic Work.
3.30–4.30	Technique in five rooms—Ear, Cervical, Dorsal, Innominate, Orthopedic, Diagnosis.
4.30–5.15	Conference State Presidents and Secretaries.

TUESDAY EVENING—REPORTS

7.30 P. M.	Bureau of Clinics	IRA M. DREW
7.45 P. M.	A. T. Still Research	C. M. T. HULETT
8.00 P. M.	Woman's Department—Bureau of Public Health	JOSEPHINE L. PEIRCE
8.15 P. M.	Academy of Clinical Research	O. J. SNYDER
8.30 P. M.	Bureau of Statistics	W. H. IVIE
8.40 P. M.	Publicity Department	P. H. WOODALL
8.55 P. M.	Legislative Bureau	ASA WILLARD
9.10 P. M.	Associated Colleges	ARTHUR FLACK
9.25 P. M.	Osteopathic Publications	H. L. CHILES
9.40 P. M.	Department of Education	C. P. MCCONNELL
10.05 P. M.	Press Bureau	R. K. SMITH

WEDNESDAY

9.00 A. M.	Pathology of Osteopathic Lesion	JOHN DEASON
9.30 A. M.	Obstruction of Bile Passages not Due to Neoplasms	GEORGE STILL
10.00 A. M.	Discussion from floor.	
10.10 A. M.	Diagnosis of Acute Abdominal Conditions	GEORGE CONLEY
10.35 A. M.	Discussion from floor.	
10.50 A. M.	Treatment in Appendicitis	J. FOSTER MCNARY
11.30 A. M.	Adjournment for afternoon of Recreation and Sightseeing.	

WEDNESDAY EVENING

7.45 P. M. College Reunions, Class Jollifications, Fraternities, etc.

THURSDAY

9.00–10.30	Section Eye, Ear, Nose and Throat	CHAIRMAN C. C. REID
9.00–10.30	Pediatric Section	CHAIRMAN IRA W. DREW
9.40 A. M.	Address on Diagnosis of Osteopathic Lesion	HARRY FORBES
10.00 A. M.	Practical Demonstrations of same	HARRY FORBES
10:30 A. M.	Discussion from floor.	
10.45 A. M.	Etiology and Treatment of Innominate Lesions	H. H. FRYETTE
11.15 A. M.	Announcements.	
11.35 A. M.	Business. Election of Officers.	
12.30 P. M.	Recess.	
2.00– 3.30	Section—Woman's Health Bureau	CHAIRMAN JOSEPHINE L. PEIRCE
2.00– 3.30	Academy of Clinical Research	CHAIRMAN WM. E. WALDO
3.30– 4.30	Technique in five rooms.	

THURSDAY EVENING

7.45 P. M. Formal Banquet.

FRIDAY

9.00 A. M.	Diagnosis in Hysteria and Neurasthenia	CHARLES SPENCER
9.30–11.00	Nervous and Mental Section	CHAIRMAN EDYTHE ASHMORE
11.00 A. M. 11.25 A. M. 12.00 A. M.	To be announced.	

Monday, Tuesday and Thursday afternoons, Clinics, Surgery and Orthopedics.
Program of Sections and Special Sessions will be printed in an early issue.

Technicians.

M. E. Clark	Reginald Platt	Roscoe Lyda	T. J. Ruddy
Dain Tasker	C. D. Swope	George Laughlin	John Deason
C. W. Young	George W. Wood	Harry Forbes	C. C. Reid
H. H. Fryette	C. P. McConnell	Harrison Maltby	J. D. Edwards

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Editorials

CLEAR UNDERSTANDING REQUIRED

If confusion exists as to what osteopathy is in the mind and practice of Dr. Still it is fortunate that we have his writings and teachings at hand. The exhaustive studies into them made by Dr. McConnell, published in the current issues of the JOURNAL, are peculiarly opportune just now. Possibly there are a few, even this early, who do not acknowledge Dr. Still as most entitled to be heard. At least there are two pertinent facts: Few of us know better than he the floundering of medical thought, and the purposelessness of medical treatment; none of us is willing to say that he understands the human body as intimately as Dr. Still understands it, or is as acute in detecting its defects or as skilled in correcting them. Until some one defends these claims, Dr. Still deserves our attention. Let us study the "Teachings of Dr. Still" and see if his conception of osteopathy, theory and practice, is ours.

One thing stands out perfectly clear: As far as Dr. Still had worked out the theories of his new philosophy and demonstrated by skillful practice their correctness, *he knew where he stood.* There was no looking back over his shoulder at drugs or at the honored profession from which his sense of duty compelled him to separate himself. There is the lesson for all. We believe that successful practice can not be established and maintained, unless the essential difference between osteopathic adjustment and drug medication as the foundation principle in each system is clear in the mind of the practician, and unless he keeps it clear in the consciousness of those who depend upon him for health.

If the practice of osteopathy is not as distinct and clearcut in the mind of the public as it was some years ago, it is because it is not as clearcut and distinct in the mind of many who are practicing it. For various reasons, which we have discussed many times, the practician finds it hard to add to the essential fact in treatment which is adjustment of body structure other considerations and directions which are helpful or necessary in most cases, and at the same time maintain his professional balance, and make his work stand out clearcut and distinctive in his community. That is the real difficult problem and the cause of confusion in most cases. To see as clearly the necessity of adjustment as if adjustment were the only thing to be done, while we add to it in the treatment of the individual case whatever it seems to require, and to convey his viewpoint of our work to all whom we minister to is the present necessity both of our therapeutic and propagandic effort.

Let us consider the necessity of this conception of osteopathy from its bearing on education, legislation and publicity.

Education—The whole trouble about our present osteopathic education is due to the fact that it developed under the wrong stimulus or coaching. It developed

more as a legislative necessity than as an educational demand. We were confronted with the fact that we could not gain the field and privileges of practice which our success entitled us to unless our course of study were extended to compare with other systems. Civil and legal conditions, which demanded another year, without being overmuch concerned in how that year was spent, precipitated the situation. But if it could have come in the shape of a demand that a certain mass of osteopathic experience be taught the student, we should not now, we believe, nor should we in time past, have been concerned with a tendency to teach drugs as a part of an osteopath's education.

However, the course has been extended and those colleges which have gone even further ahead and maintained the four year course with the high school diploma as the requisite to matriculation, while they have declined more applicants than they have matriculated, prove clearly that there is a demand for this standard and that the colleges can maintain themselves upon this basis if supported from the field.

Even the briefest review of the development of our educational system, from the time when two or three text books were used to the present time, need not be entered into here further than to say that in coming up to the course of study as it now exists, lines of least resistance have been followed. In the absence of osteopathic texts, or of such texts prepared by experienced teachers, it was easier to copy than it was to originate; hence, and for no other reason we believe, our course of study is more similar to that given in the medical colleges than we should wish it to be. Coupled with this is the fact that in some states osteopathic physicians are required to have a knowledge of drug medication or accept a very inferior position in the field of practice.

Our own information coincides with that of those who have investigated our colleges most intimately, that no where does a desire seem to exist to teach drugs with the intention that they be used as remedies in the treatment of disease. In some quarters, as the laws now stand the colleges believe that they are confronted with the situation of giving some drug instruction or requiring the graduate to accept a license very much inferior to that to which he is entitled. The authoritative statement is made that if the legal situation can be cleared up and the privilege secured to its graduates commensurate with their qualifications that no drugs will be taught and that in the meanwhile drugs are taught not sympathetically, but simply to meet legal requirements.

At the Philadelphia meeting of the A. O. A. the question of the teaching of osteopathy, the viewpoint from which it is presented, received more serious consideration than any other subject. The profession no doubt is familiar with the resolution adopted at that time and since printed in the Journal. As will be recalled, the Association gave the colleges one year in which to adapt themselves to the condition. Whether or not that is sufficient time, we are not informed. But the spirit and intent of that resolution seem to meet the hearty approval of the profession. The following sentence no doubt expresses the general opinion: "The teaching of Materia Medica and Pharmacology in an osteopathic college is a detriment rather than a benefit to the osteopathic student regardless of personal point of view of the instruction; the osteopathic graduate from a school that teaches much and straight osteopathy is better fitted to promulgate and advance the science of osteopathy than the graduate who has a smatter of drugs, even though received from a corps of instructors who deprecate its use."

The need of this position must suggest itself to all thinkers. Osteopathy is either a new thought and a new application of truth, or it is nothing that deserves the attention either of educators or of the state.

If it is new, then it is different from the practice of medicine which centres around the administration of chemicals to secure body reactions. If it is a complete system, it does not need them as an adjunct. If it is a new system, it is entitled to be treated as a new system both by the colleges which prepare those who are to practice it, and by the state which regulates it.

With this discussion of its bearing upon the educational situation, we pass to the other subjects. In the next two or three issues of the JOURNAL, we hope to present the views of the Department of Education and of other prominent members of the profession on this point.

Legislation — A clear-cut understanding of osteopathy becomes progressively necessary in its relation to legislation. With conditions as they were ten or more years ago we should outgrow the necessity of the form of legislation which we seem now to need. Under these conditions we should not now need the clause limiting the practice of osteopathy. While it is humiliating to admit it, we do find in open states that there is a greater tendency to use drugs in osteopathic practice than in states where the law restricts it. However, if education could be given to fit the osteopath for practice rather than fit him for the licensing boards, we believe that our colleges could educate the newer graduates out of this tendency in time so that whatever might be their privilege before the law, their conviction in the presence of disease would be that the application of the principles of osteopathy was the best that could be done for the case.

In recent years, however, the condition is becoming more clouded by the presence in practically all the states of a vast number of imitators of osteopathy who are seeking public favor on the good name which osteopathy has made. These by attractive prices and by making advance to those who have no other means of appearing up to date than by accepting the latest offering in the healing art, seek to profit by the fact that osteopathy to many appears to be nearer to medicine than it was a number of years ago. These by sheer numbers in recent months have forced recognition from one or two states and relying on the fact that there may be too many of them in a state to permit of individual prosecutions for infractions of the medical practice act they locate wherever they will.

If osteopathy is built up around the central fact of the adjustment of body structure as a means of preserving and restoring health and if it has lost none of its force on this particular point because it makes use of physiologic and hygienic aids in treating cases, then these other systems are rank imitations and are no less imitations because they limit their practice to a part, although the distinctive part, of osteopathy. It is, therefore, eminently necessary that the teaching and practice of osteopathy be very distinct and characteristic lest more of the states be found in the anomalous position of recognizing a therapeutic school as distinct and complete, and then recognizing a cult of a lower grade and on an inferior plane because it has appropriated and uses a *part of that system*.

Theoretically, the unlimited license, that which grants privileges in proportion to the work covered in the preparation of the licentiate for his work, is right and proper. Practically, at the present time, it does not seem to work out, and we believe it will be many years before we reach this state. The position of the Association has always been that if osteopathy is a different system from that represented by drug medication, that that form of legislation, all things else being equal, which establishes this difference is desirable. Legislation should be in harmony with the spirit of education. The object of legislation is to protect the public from incompetents, to guarantee that those who are permitted to

offer their services to the public have been examined and are reasonably competent in the practices and principles of the school in which they are taught. Secondarily, laws are intended to give some form of protection to those who thus qualify, as against those who do not qualify for this important work.

If, therefore, osteopathy represents a system, such as has been briefly outlined herein, does not it and the practice of medicine over the range of therapeutics? But they cover the field as separate systems and in no sense as the same system, one being built around the idea of structural perfection, the other around the idea of chemical stimulation for body reactions, both making use of what is physiological and hygienic toward preserving and restoring health. Where can any other theory enter? This division, however, does not satisfy those who wish constantly to present to the public a newer name in therapeutics or who are not able or willing to qualify to practice a general system. By advancing something new, these are able to practice which they could not do under any regulated system.

This chaos existing in medical legislation today is due to the dogmatic position taken by the old school organizations in every state. The position was that their system included all that could possibly be useful in medicine, hence those who wish to practice must come in through it and with its stamp of approval anything desired might be practiced. It mattered not what one wanted to practice, how he expected to get his results or how limited that practice was to be, he must qualify upon the same basis as those who were privileged to use surgery and administer deadly poisons. It will not be denied that this is the ground upon which all recent medical legislation has been fought. But the public is not convinced and the fact that a system which is intrenched by the state and has access to its institutions fights others is evidence to the average person that the main spring of such opposition is selfishness. In spite of numbers, political and social strength and wealth of the medical professions, they are unable to prevent any one from coming into the state and practicing under another name. Medical practice laws will be defied and the public apparently supports those who defy the laws until they become sufficiently numerous to pass such laws as they desire.

There is an element of fairness in both contentions. The public is entitled to a better preparation than is had by most of these people who demand the right of practice. But the mere fact that they are discriminated against, that they are opposed and attacked and brought to court for defying laws which they believe were never aimed at their practice gives them sympathy and greater publicity than they could possibly win on the merits of their work. As we have said many times, it is no business of the state to determine whether or not a system has in itself merits. The business of the state is to prepare some elastic system which will provide for certain privileges to those who practice based upon educational qualifications and to deny the right of practice to none qualified in that particular system.

Arbitrary medical legislation is the cause of the flourishing of fakery in this country today. The public is growing more independent, and when the law-making power in the state recognizes the fact that public wishes and desires cannot be controlled by laws, that unjust and discriminatory laws cannot be enforced, then we shall have some provision such as the JOURNAL has outlined several times within the past three years, whereby any one who understands the nature of disease and can satisfy the state that the health of the people will not be endangered by allowing him the privilege to practice that particular form or system in which he can prove himself to have quali-

fied. Having demonstrated to the satisfaction of any observer that laws do not prevent practice by any who want to practice it would seem that the time had come to legislate on the basis of *regulation*.

Publicity—From the propagandic standpoint a clear cut and incisive conception of osteopathy is essential. For many years we have had excellent promotion literature, which educated the patient as to the methods of osteopathic procedure and the range of application of its principles. This has done and is doing splendid work. But for the reasons given above it becomes more and more essential that the distinctiveness of osteopathy from medicine on the one hand and its elevation and effectiveness above its imitators on the other hand be clear.

More recently we have enlarged the field of our propaganda and are developing the civic and sociologic phases of the profession. And here the distinctiveness of the system must be shown even more pronounced and the fact that this need increases is evidence of the fact that this side of our propaganda work must be strengthened rather than neglected. Our newspaper publicity, as far as it is able to do so, should keep clearly in mind the position we occupy as outlined above. The *Osteopathic Magazine* should be a most valuable aid in this work. Already it goes where no other osteopathic literature can go. If it can have the support it deserves, the number of its copies rendering this unique service can be multiplied many times.

In concluding, let us revert to the thought with which this article opened, that what is needed above everything else is a clear understanding of the teachings of Dr. Still as a thorough preparation for our own efficiency and for an understanding of our work and when this has been attained, all of our activities will of necessity take care of themselves.

A STRONG ARM OF OUR SERVICE

Two years ago in our largest recent meeting, after a day's conference, it was decided practically unanimously to meet our duty to osteopathy by taking steps to systematically let the public know what we stand for as a profession. The feeling was that our promotion literature splendidly took care of that field, but that the interest taken by the profession in civic and sociologic affairs had no avenue of expression! The need of this was accentuated by the extensive press bureau work, founded several years previously by the medical profession in which practically everything aimed at the betterment of the race was credited to that body. This, coupled with the fact that we had reached a point where we had much with which the public should be acquainted, seemed to demand that a press bureau service be established, and that a lay magazine, already discussed for a year or more, be founded. Besides, the Research Institute had reached the point where it needed this arm of the service and one of the strong arguments made in behalf of an official lay magazine came from the Research Institute.

So at that meeting the *Osteopathic Magazine* and the Press Bureau were endorsed. So popular was the magazine idea that the Press Bureau contributions were incorporated with the magazine subscriptions and those subscribing for copies of the magazine pledged to give an equal amount toward the support of the Press Bureau.

As soon as it could be done following this, the Bureau of Clinics was founded, and an avenue of activity for the women in the profession was provided by the establishment of the Bureau of Public Health. It will be seen that all of these were directed to this one idea. Not publicity on what osteopathy does therapeutically, but its relation to society and the state and its duty to humanity and the indigent sick in particular.

As a whole this department of the work

has progressed well. Based upon the enthusiasm with which it was initiated and not foreseeing the troubled financial conditions to come upon the country, more work was laid out for the department by the Board of Trustees at the Philadelphia meeting than it was found practical to maintain. Hence, some of it had to be temporarily curtailed. To date, covering a period of about a year and a half of activity, about 285 individuals and twenty-two organizations have made financial contributions to the Press Bureau work. Its work has greatly increased the publicity given to the practice of osteopathy. It is particularly valuable in announcing meetings, and likewise can do a great work for our colleges in reporting their commencement exercises, school openings, etc.

The Press Bureau support has been taken from the precarious dependence upon special contributions and made a part of the financial budget of each state organization and of the A. O. A. As intimated herein recently, the Trustees of the A. O. A. have entered into an agreement with the state organizations and colleges to give an amount equal to that paid in by them up to a definite sum per year for our publicity work. The states, without exception, so far as heard from, heartily join in the plan and several have already pledged more than was asked of them. This not only assures the sustaining of the work but adjusts the cost so that it is fair to all and burdensome to none.

The Bureau of Clinics, while confronted with unexpected difficulties, has done efficient work. It is fostering the spirit for free clinics which is growing rapidly, and their establishment in connection with churches and as separate institutions has been effected in many cities of the country and many others are soon to follow. No feature of our work is more praiseworthy or deserving of co-operation.

The work of the Women's Bureau is also growing, as it places the service of the osteopathic profession where it belongs, as an advisory and executive force in the Women's Club movements throughout the land. Since Calvary, women have always been first where suffering called for sympathy, and few greater opportunities have been offered them than placing the gospel of osteopathy before other women who know it not.

To date about sixteen issues of the *Osteopathic Magazine* have gone to the profession and public. Today it occupies a peculiar position in that some of the profession do not care for its continuance, while many others praise it in the highest possible terms. This division of sentiment seems to grow out of confusion that exists as to the field the *Magazine* when founded was to occupy. Clearly, it was not the purpose of the Association in founding it to enter a field already covered any more than the Press Bureau work or the free clinic work were to occupy fields already covered. Those who considered the matter saw a gap which this magazine was to occupy—it was to be the spokesman of the osteopathic profession to the layman on professional rather than therapeutic matters. It was not intended for the profession and it was not intended as patient-getting literature. It was intended for the libraries and reading rooms of the land, for members of legislatures and Congress and influential public people and for such friends of osteopathy as might choose to subscribe for it and for others to whom members of the profession might wish to send it. The idea was hardly indulged that for some years, at least, it would become a magazine of general circulation.

After this short period of development it has found its way to some 3,000 such laymen, and to several hundred libraries and reading rooms and to the exchange list of as many newspapers and magazines, which conduct health and home departments. As

said above, the membership seems to be sharply divided into two classes: First, those who have not tried to circulate it and not finding it absorbingly entertaining to themselves (it not being made for this purpose) do not see the need of it; and, second, those who have used it and enthusiastically approve of it.

No magazine could wish for heartier commendation and praise than comes to this office for the *Magazine* from hundreds of those who have used it, especially from the smaller cities and towns. These members also inform us that inquiry by them elicits the fact that librarians report that no periodical coming to them is more eagerly sought after than the *Osteopathic Magazine*. These expressions do not deal with theories as to whether there is or is not field or room for such a magazine. They record the simple fact that those who use the *Magazine* with intelligent friends of osteopathy in their communities find that the *Magazine* is appreciated, and that it is greatly sought after in libraries. Both of these are confirmed by numerous letters to this office direct from lay subscribers, and librarians.

When the *Osteopathic Magazine* was founded, the profession appeared to be unanimously back of it, and so it seemed fair to allow a subscription to it to each member of the A. O. A. This also served the purpose of furnishing a subscription list at the start, which the postal authorities require. However, as this condition now no longer exists, the *Magazine* having ample subscription list of its own, and as the objection may well be raised by some who do not care for the *Magazine* that their money should not go towards paying for copies sent to the members who are not subscribing for it, it seems wise to discontinue sending the *Magazine* to the A. O. A. membership and place it strictly upon the subscription basis. This has been done, and the May number of the *Magazine* went only to those who subscribe for it. Hence, members of the profession who wish it for their reading room tables as heretofore should subscribe.

The copies of the *Magazine* sent to the more than 3,000 members must be paid for and manifestly it is not fair to expect that the direct subscriptions to it pay the bill. With this list cut off, the direct subscriptions will take care of the expense of the *Magazine*.

In closing, there is a question we wish to ask: Have you tried the *Magazine* with a few of your best families? If not, send a six months' trial subscription to some of them. And especially do we wish to know if the *Magazine* is in every Public Library, reading room, Y. M. C. A., etc., of your town? If not, can you afford to neglect it in view of the uncolored statements made regarding its reception in libraries, as indicated above? Is it not worth ten cents to you to have ten, twenty-five or one hundred people of your town read about osteopathy as the *Magazine* presents it? Do you not think that your local newspaper would very much more frequently mention osteopathy and in an appreciative manner if this *Magazine* each month went to the editor's desk?

We press this particularly upon those living in the smaller cities and towns of the land because it is from these that the most of our information has come. We are not able to give at this time the reception which the *Magazine* meets with in the large cities; but if it has made this place for itself in so short a time in the smaller towns, isn't it worth a trial everywhere.

The *Magazine* also furnishes a perfectly legitimate advertising text which some appear to be using to advantage. Newspapers come to this office with a display ad, "The *Osteopathic Magazine* on Sale at ——— News-stand Today." No doubt the local osteopathic physician pays for the *Magazine* and places it there. No doubt he pays for the advertisement, but what if he does? Isn't it very much better for the profession

and isn't it worth very much more to him with the people whose influence he seeks, to advertise the fact that the osteopathic profession publishes such a magazine than to advertise the fact that "Dr. ———— wants to treat you for Hay Fever or Constipation?" Even as the *Magazine* will be many years in reaching the point where it becomes a general subscription magazine, so it will be many years, if ever, before it can be handled by the news agencies. But that does not diminish the value to those in the smaller towns who want to use it as these are using it to whom we have referred.

State, district and local societies have no more legitimate calls upon their treasuries than to place the *Magazine* in every library in their territory. It speaks for the profession; it educates toward osteopathy and all members will profit thereby.

A DUTY TO THE COLLEGES

A year ago a brief statement of what osteopathy demanded and offered as a profession to those who enter upon it was prepared and many copies were distributed to High School graduates by members of the profession. There appears to be no doubt that this aided the colleges in increasing their attendance at a time when attendance in many medical colleges was reduced fifty per cent.

Another pamphlet has been prepared for the same purpose this year and is now ready for distribution. Copies will be sent in bulk, charges paid, to those who agree to distribute it. Envelopes will also be furnished where requested. This is a perfectly proper activity. In a sane, wholesome manner it presents the field osteopathy offers to those who are deciding on their life work. It is a matter which should be taken up by every state and local organization. The district organization in particular can divide up the territory and see that every High School is cared for. Here again the larger cities present more difficulties, as many of them have a rule which prevents lists of their graduates being furnished. But these rules do not usually obtain in the smaller institutions.

In a few weeks hundreds of thousands of young men and women will have finished their preliminary education and a fair proportion of these will turn to the learned professions for their life work. In September, seven or eight osteopathic colleges will open their doors to qualified young men and women and offer them the best opportunities presented by any professional line today. Every osteopathic physician, by means of this little pamphlet, is in a position to connect up graduation from High School with matriculation into the study of this wonderful science. Will he do it?

NEW OSTEOPATHIC BOOKS

The announcement from the Research Institute that new osteopathic text books are soon to be ready will be hailed with delight by the profession. These will comprise Bulletins 2 and 3 of the Research Institute series in experimental work, the first done by Dr. Deason and his assistants at the A. S. O., accompanied by some work of Dr. McConnell. The latter Bulletin will be a complete and carefully prepared manual on the subject of "Catarrhal Deafness," prepared by Dr. Deason with the collaboration of Drs. Edwards, Granberry and Millard. This will contain many colored plates and illustrations. Price of Bulletin No. 2 $2.00, No. 3 $3.00.

Public Sanitation and Other Papers will bring together in one volume the work left by the lamented Dr. Whiting, including some that has been published and much left unpublished and interrupted by his sudden death. Edited by Dr. Louisa Burns. Price, $3.00.

The fourth volume in the series of Studies in Osteopathic Sciences by Dr. Burns will be a treatise upon The Blood, and will be uniform with the other three volumes. This

also is well illustrated with pen drawings and color plates. Price, $4.00.

Clinical Osteopathy is a manual of practice comprising a digest of experience of a large number of practicians, edited by Dr. McConnell. Every possible facility has been placed at his command and the work will be one of unusual interest and value. Price, $4.00.

The fifth edition of Principles of Osteopathy by Guy D. Hulett, re-written and revised to date, is also soon to make its appearance. Price, $3.00.

It is necessary that the cost of the mechanical work on all of these volumes be in hand or assured before any of the publication can be done. The prices given above, therefore, are for advance subscriptions. Each member of the profession now has the opportunity not only of materially increasing his osteopathic knowledge, but has the further opportunity of adding these volumes to osteopathic literature, which means a great deal for the success and advancement of the profession. Therefore, it is hoped that each JOURNAL reader will send in to the manager of the Research Institute at Chicago his subscription to such of these books as he feels are most needed.

THE PORTLAND MEETING

On August 2d, the nineteenth annual gathering of the osteopathic profession will be held in Portland, Oregon. The program is nearing completion and the arrangements, both for reaching Portland and for our comfort and convenience while there, and for the great publicity feature on Osteopathy Day in the Panama Pacific Exposition at San Francisco following are practically completed.

For many it means a long trip. For many it means some outlay in time and money. But do we not all feel ourselves under some obligation to osteopathy? Has it not made men and women of us? Into what other line could we have gone which could have raised us so much in our own estimation and in the graces of those whose health we have been able to restore? Osteopathy has given most of us much. Are we not willing to expend something, both of time, convenience and money, in its behalf and in our own further upbuild and improvement?

An important meeting is ahead of us. Chaos and indecision exist in so many quarters that we need a representative body to meet in this annual gathering. Let us have a representative meeting at Portland.

Then too, the trip to the West. It offers unusual opportunities. The Transportation Committee has faithfully and efficiently done its work. When you go, will you not follow the crowd? Get into communication with the Transportation Committeeman from your state (names printed in last issue of the JOURNAL and give your self the pleasure of traveling with other professional brethren. Double the value of the meeting by the opportunities which these days together will bring. And besides, give osteopathy the publicity it deserves and which it can secure by our traveling together, enabling us to secure special cars and special trains. Traveling as individuals, like all other individual effort, does not make publicity. If we will support the Transportation Committee, every town through which we pass will be made to realize that there is a great osteopathic profession in the land. And that is worth while.

Departments

TECHNIQUE

CARL P. MCCONNELL, D. O., *Editor*
Chicago

The Standardization of Technique*

Have you ever stopped to consider (and we trust every one of you has) that the probable amount of energy one actually wastes (and which at times is worse than dissipated) in giving a treatment? Multiply this by the number of

*Delivered before the Osteopathic Society of the City of New York, April 17, 1915.

treatments given daily and you will have a fair idea of the amount of energy needlessly expended in a day's work. Really between the feathers, frills and furbelows of mere buncombe and the fuss, fumble and fudge of actual inefficiency there is a weekly loss of foot-pounds that would be surprising if it could be computed. And with many the effects on both patient and operator are well known, even if an appreciation and realization of its cause has not been discovered.

Whoever is satisfied with his technique methods is in a routine rut, and routinism spells retrogression. Perfection in technique may some day be approached, but not before we know a great deal more than we now do of the physics of the human organism. No doubt, to a large extent, technique can be made an exact science. Before this period is reached, however, the anatomical and physiological physics of the entire body will be required to be worked out upon a mathematical basis. But for the present every one of us can do much by noting osteopathic diagnostic signs, collecting data, and analyzing the different methods. This will insert the thin edge of the wedge toward a standardized technique. It simply means utilizing our present methods to the greatest advantage of the patient with a minimum of effort upon our part.

The first requirement of standardizing technique is the standardizing of diagnosis. Lack of a thorough and comprehensive diagnosis is the basic cause of much of the hodge-podge technique of the present. If Dr. Still has taught us anything he has continually insisted that symptoms are simply effects. He classifies disease in accordance with the blood and nerve supply to the several organs. He does not tell us to go through a certain manipulation here and another kind somewhere else, or to give a strong or weak, or short or long, or light or heavy, over-hauling. Indeed not; such is not osteopathy. Instead he tells us to examine the structure most carefully from head to feet and then proceed to adjust what is wrong. Then when the patient comes back for another treatment, first again thoroughly *examine* before attempting to do anything therapeutically. This is absolutely and unequivocally foreign to routinism (except routinism in diagnosis), to needless "rubbings," to "cut and dried" technique, to "pawing," to "canned" systems. It is strictly scientific adjustment first, last and eternally in absolute accordance with the findings, mechanically, in every treatment given. It is a problem of finding the maladjustment, correcting it, and keeping it in normal place and position until the bodily forces can thoroughly assert themselves. The philosophy of osteopathy is a mechanical one, nothing more or less.

Now the Old Doctor has repeatedly said that it makes little difference how a lesion is adjusted so long as there is a minimum of shock. He does not want any one to be an imitator. He says there are many ways to correct a lesion. This is all true enough, and at first blush would seem to indicate that, in his opinion, a standardization of technique should be taboo. But we are very certain this is not the point. If there is one thing that reveals the true genius of Dr. Still it is, of course, his mechanical conception of anatomy and physiology. In every instance he comes straight back to the structural make-up of the human mechanism—not in two or three instances, not in certain sections of the body, but every time and in every place. No doubt he has always fully appreciated the lines of least resistance—a relegation or prostitution of technique to mere routine. This has nothing to do with standardization, but it has everything to do with imitation. All of you are familiar with how at all times and places he has been requested to give his "technique" for this disease and that. Really such a request is virtually absurdity. This point, however, must not be confounded with an outline of "treatment" in the abstract. He has constantly striven for the individualizing of cases; meet conditions as they actually exist. But most emphatically this implies a knowledge of structural anatomy, of physiological physics, of mechanical principles, of dynamical forces. This is osteopathic technique; and standarization means a knowledge of structural mechanics and mathematics, with a resultant increased efficiency and a minimum of wasted effort and time. Imitation of method will destroy all of this unless one has an absolute bed-rock conception of what osteopathy truly means.

Just stop for a moment and lay bare the real facts of your technique. How much of your work is really constructive? How much set-methods or routinism? In what percentage of cases have you a probable conception of just what is the matter with the patient? Don't you think that in nearly every instance that you could better your technique by a little more thorough osteopathic diagnosis? Would not the results gained by more scientific work mean greater efficiency, as well as less fatiguing of the patient and yourself? How much of your treatment is indefinite and really not to the point? Think of the efficiency obtained and the immense satisfaction secured to all parties by clear-cut scientific methods. It is deadly scientifically and discouraging personally to be slaves to some of the methods that all of us at times pursue. And what is the *why* of this? Simply that we do not take the time and make the effort to actually lay bare the cold facts, analyze them, and make an attempt to rectify faulty and careless methods. It is quite essential to trust to nature in the healing processes, but the patient would not come to us if nature did not require assistance in structural correction. No doubt that with many lesions nature is able to care of them; and with many others a very slight structural impetus after the manner of almost any kind of tretament will suffice; but with others a high degree of skill is required. But beyond all of this, the greatest good to the patient, and real progress and personal

satisfaction can be obtained only by solving the problems upon the ground of scientific skill.

Many of the most ordinary crafts show greater acumen and skill in their work than we do in some of ours. They have analyzed every step and adopted the best and most skillful methods and cast aside the needless with a tremendous gain in efficiency. With a lot of our work we are simply bungling and boggling amateurs. And all because we have not even attempted to standardize our technique. We have not even a consistent nomenclature. Think of it! Several thousand strong for a decade or more and we are not even down to brass tacks; and a scientific profession. It is a travesty, or it would be if the potentialities of our work were not literally tremendous.

The nebulosity of our technique literature does not show up to our credit. And still we boast that our art is in advance of our science. Not much, if it were not for the absolutely scientific fundamentals of the science the art would be a joke. Back to the clinical observation and diagnostic elicitation should be our watch words. Out of this, and this only, will arise a technique that is uniformly scientific.

What do we know of spinal mechanics? Comparatively little. And it is no legitimate excuse for us to say that the surgeon knows no more, or even less. The physiology of the spinal movements is really our special field, and think of the fudge and fumble and artful execration we indulge in and call it technique. Again we say it is observation and data and careful analysis of the same that we require.

There should be a minimum dead level of efficiency before one should be allowed to practice. We fully realize that certain general manipulations and stretching and kneeding of soft parts will accomplish considerable, but it is the field above and beyond this that we are referring to—the physics of the structure. This is where the personal work of Dr. Still outshines all of his followers; it is in the living conception of what anatomical and physiological knowledge really means and the complemental ability to actualize this in technique.

It is either only a partial viewpoint we get, or else we too often let it slip, that holds our development in check. There is no question but that truth as we see it is relative and conditional. Dr. Still has given us his central thought, the basic principle of osteopathy, and it remains with his followers to develop to a more or less completeness the many features. He fully believes that the world is all right fundamentally, but that many of our beliefs and practices are wrong. Even many who know better have not the courage of their convictions. Or is it inertia? Traditions, half truths, and the like keep all more or less in bondage. Where the greatness in Dr. Still is shown is in his courage to live and die according to the principles he thinks are just and right. This requires the highest quality of moral courage. Osteopathy is either wrong or right; there is no half way ground. We as followers are in bounden duty to drink long and deep at his well of inspiration.

Arnold Bennett somewhere says that the best of the novelists do not come within a hundred million miles of real life. Occasionally one is enabled to soar some distance above the earth and get a better perspective than many others; but after all, in the end, they are bound to land in the realm of autobiographical psychology. It is the importance of the viewpoint of life that counts, one that correlates the greatest number of interrelated facts. One's technique reflects his conception of osteopathy. By our technique we develop the living embryo in our mind as we observe it in the signs and symptoms and their interrelationship of the case in hand. Too often we do not come back to the central and living truth of fundamental osteopathy, forgetting that no man ever changed any principle or law of nature.

The only way we can become free is to understand the law and abide and profit by it. We, too often fail in recognizing the essential unity of the organism; this includes both function and structure. Likewise with the body and brain, we forget the inherency of both in one common organization. Not keeping this constantly in mind we fail to develop into good observers. "A man may acquire the ability to observe a large number of facts, and still remain in the infantile stage of observation." He does not see life as it really is. "Good observation consists not in the multiplicity of detail, but in co-ordination of detail according to a true perspective of relative importance, so that a finally just general impression may be reached in the shortest possible time. The skilled observer is he who does not have to change his mind."

An osteopath recently said that, "removal of structural disorders constitutes the treatment" and allied postulates of osteopathy were "glittering generalities" and remained to be proven. Now we take exception to such a statement. In the first place if it was not for the removal of structural disorders, where in heaven's name would osteopathy be today? What developed osteopathy to where it is but the absolute clinical proof that removal of structural disorders does constitute the treatment? This is just what did come piecemeal to the actual experience of Dr. Still. This knowledge, quite unlike Minerva, was not born in its fullness. It was not an "inner consciousness," but something far different, a conscious reality, an experience, a knowledge of the fact, a proof. Right here is exactly the trouble without technique: We do not get the living anatomical conception of osteopathy. Our anatomical knowledge is insufficient, not text book knowledge, but the tactual based upon physics. Our reasoning is constantly clouded by tangents because it is not combined sufficiently with the actual experience, or our skill is of such a quality that it disappoints us. Not one of us barely approaches

the skill of the Old Doctor. It is the old error of looking inward for knowledge.

Dr. Still is like Paracelsus* who broke away from medical authority and went to nature to learn wisdom. Observation and experiment was his guide. Such followers "are not given to idleness, nor go in a proud habit, of plush and velvet garments * * but diligently follow their labors, sweating whole days and nights by their furnaces. * * * They put their fingers among coals, into clay and filth, not into gold rings. They are sooty and black, like smiths and miners, and do not pride themselves upon clean and beautiful faces." Dr. Still has not been what Boyle in "The Sceptical Chymist" calls a "hermetick philosopher." Our greatest lesson today, and by far, is the example of Dr. Still's technique. Only on the firing-line can this be cought; mingling with life, with living humanity, like a Voltaire, and in no other way.

Dr. Teall says: "If every osteopathic physician would analyze each movement in a treatment—what is needed, why it is given, and what it will accomplish, he would find half his effort was unnecessary and it would make his work specific as well as compel a knowledge of conditions." This, in our opinion, is exactly to the point. The first essential is a knowledge of conditions. A trite statement to be sure, but what a world of effort back of it. If osteopathy means anything it represents a more fundamental knowledge of etiology, than is represented by existing systems. Hence, a different viewpoint in diagnosis. It is so difficult to keep this fact consistently and comprehensively and constantly before us. The goddess of osteopathy is elusive and jealous. We are constantly shunted by false gods. We do not see truly, that is, fundamentally in every treatment we give. And what is the result? The dropping back into general manipulations, the line of least resistance. The high tension of mental effort required is fatiguing, but is there any other road to osteopathic success?

It is osteopathic diagnosis, structural, then, that is the first absolute requirement to a scientific technique. Of course, all of us touch the high spots at times, but we are far from doing it in a goodly percentage of times. Now we would not speak of this so feelingly, and probably not at all, if we did not know some of our shortcomings and mistakes. When your president honored us with an invitation to speak to you on the subejct of standarization of technique, we gladly accepted, for we well knew we are one with many others crying in the wilderness, and that probably a discussion of the subject would assist slightly in clearing away the underbrush, or better still give some one an impetus to thoroughly prosecute the work.

What is the meaning of osteopathic diagnosis, a knowledge of which is so essential to technique? Does it mean a classification of signs and symptoms of disease and a certain understanding of laboratory detail? Unquestionably all of this is valuable knowledge, but is it, the central feature, the one desideratum, to a successful technique? Certainly not from the osteopathic viewpoint of etiology. Osteopathic diagnosis is the knowledge of the structural-anatomical condition of the disordered mechanism. This again sounds hackneyed, and it is; but, oh, so significant. The simplicity of principle expression, and still the enormous complexity of the structural organism; the simplicity of fundamental technique teaching, and still the intricacy of technique execution; from the one to the other, from the subjective to the objective, comprises sense experience and reasoning power, the combination of properties termed thinking, of no small degree, and particularly so when the skill required to actualize results is called into force.

As we see it, there are just two factors in this structural diagnosis that are basic to the technique problem; the actual structural tissue relationship of the abnormality and the character of the tissue change or pathology. The two are interrelated and represent the two sides of the diagnostic shield. If we can determine the mechanical relation of the tissues at fault, and are satisfied that the pathological involvement will not be harmed by manipulative efforts, the problem is a mechanical one and nothing more. But if the pathology is of such a character that manipulation may be harmful, then the problem is one of palliation or attacking it from some other viewpoint. The vast majority of cases include the former. Then, as we said, the problem is one of mechanics, and the work that is localized, precise, contains the solution.

Right here arises the great point (we will not call it a problem for all tissues are part of a unified whole) of soft tissue work versus the bony lesion. Unquestionably there are more soft tissue lesions than bony ones, for the very simple reason many of the bony lesions are brought about through muscular imbalance. The muscular route is probably the chief road in producing osteopathic lesions of all kinds. But the muscular lesion is not the lesion that calls for a high degree of skill in establishing normality of structure. As we have previously said, nature without doubt is constantly correcting innumerable lesions (especially the muscular ones) and most any kind of treatment will correct many others. To a few, in a sense, this is the curse of the Nibelungs' hoard. There remains a class, however, that nature or "any kind of treatment" is not able to cope with, and these are the ones of deep structural significance that require a high degree of mechanical skill to adjust.

Atmospheric conditions and changes, over-fatigue, continued exhaustion, emotions (note Crile's work on Anoci-Association), slumped posture, trauma, are among the small but significant beginnings of structural damage. Hy-

*There is much in common with the lives of Paracelsus, the "Medical Luther," and Dr. Still.

gienic rectification will work wonders here, but beggars are not always choosers nor ignorance always bliss. Then life is eternally a battle of the forces in which the physical eventually goes down to defeat. We can never lose sight of the fact that there comes a time when vital response is only spasmodic and finally is no more. Ease and disease are conditions in which there are infinite gradations; at best a condition is a relative term.

In our diagnosis it is the structural position, the character of the tissue change, the vital resistance, and the nature of lesion-anchorage that must be determined. No doubt relaxing and loosening the soft tissues and stretching and springing the confining ligamentous bands will normalize many structures, particularly if the effort is localized and precise. Still much of this work can be minimized by intelligent effort based upon careful diagnosis, and the saving of fatigue to the patient and of exhaustion to the operator will be considerable. Here rests the real danger from over-treatment. As the Old Doctor has frequently said, we far too often over-treat the patient, both as to time and frequency, and we are certain many of you will confirm this statement. It has been shown scientifically that five minutes massage of a muscle is the maximum time that can be given before fatigue supervenes. Too frequent treatment and over-treatment soon lead to irritation.

There should be a definite purpose, of course, in soft tissue work the same as in any manipulative and corrective effort. Indefinite and purposeless manipulation certainly has no place in osteopathy and is merely mentioned to be condemned. In fact, such effort may work quite to the contrary to any hope we may place in it.

The really difficult work, the work that commands skill, arises in those cases wherein there is a definite or specific lesion or lesions involving the bony foundation. If there has been sufficient traumatic damage to cause injury to the articulating tissues as well as malposition of the surfaces, it is quite necessary to know the extent of the pathology. Then there may be instances wherein deformity and disease has made serious pathological inroads into the joint structures. Again we may find the joint surfaces intact, but the ligaments torn or wrenched. In certain cases, no doubt a few fibres of the ligaments may be separated. Herein we have been dealing particularly with traumatic damage. The irritation may produce an overgrowth, or the damaged ligaments alone may establish a certain restriction of movement; in others laxness. In those instances where subluxation exists restriction of function will be found, dependent upon the extent and degree of tissue irritation the same as in wrenches and impactions. In all of this it is certain that the character and extent of the pathology will determine the nature of the technique.

There is another very important class of cases where strong muscular contraction produces incoordination, a musclar imbalance, with a result that the joint surfaces are unevenly compressed or very likely rotated to a point of subluxation. If the irritation is continued and severe enough contracture of muscle fibers will take place as well as some thickening of the strained ligaments. Contractures, ligamentous thickenings and adhesions are all possible complications, in varying degree and frequency, but not always constant.

In the more serious injuries surgical rules should be followed: that is reduction with minimum of damage to soft parts, rest until repair has well started, and then careful mobilization by manipulation and active exercise. But the vast percentage of osteopathic technique is outside of these strictly surgical measures.

In actual technique work it is not so much the method that should actually concern us (for a method is simply a means to an end) but, instead the principles involved. There are various ways to set a dislocated elbow or shoulder, the same as there are different ways to adjust certain vertebrae. But outside of main force of trusting to luck, definite mechanical principles must be followed if possible damage and shock is to be reduced to a minimum, and a maximum of success assured.

Then, standardization of technique means a study of joint structures and their functions and the mechanical principles involved when maladjusted. The physiology indicated is a mechanical one and there can be only a certain number of methods at most to reduce the luxation. It is simply a question of fulcrum placement to the greatest advantage to the case at issue. We know something of joint-structure physiology, but there is much more we do not know. It is the systemization of this knowledge that will form a basis for a standard technique. Thus one can readily see standardization does not mean imitation, far from it, but an understanding and application of joint structure mechanics. This will mean the saving of an enormous amount of energy, as well as greatly increasing one's efficiency.

Let us note a few of the existing methods of technique. First, we should clearly understand that the primal object of technique is normalization of function. This is neither a problem of structure versus function, nor a question of stimulation or inhibition. In the clear definition of technique it is a problem of structural (anatomical) perfection in order that the functional (physiological) may potentiate. This, to our mind, follows the basic conception of osteopathy, that the human organism is a perfect mechanism, a unified whole wherein each part conditions all other parts, and that all necessary forces for growth and repair are therein contained. Therefore in its strictest sense, so far as technique is concerned, structure determines function. We are not interested for the present in discussing the wide possible biologic phases of structure versus function.

In diagnosis, however, the functional test is

the criterion of judgment; but at the same time, in technique actualization, it is the striving for structural attainment that characterizes the procedure. Keeping this clearly before us will assist in defining our work. Upon the other hand, no doubt abuse and disuse of function will disturb the physiological balance of equilibrium, and very likely lead to structral imperfection. But we must not be misled by confusing the biologic principle with the therapeutic indication. Our technique work will depend absolutely upon structural indications, to which will be added hygienic measures.

Likewise with the mooted problem of structuralization versus stimulation and inhibition, we should keep clearly before us that we are dealing with a complete mechanism. It is normalization of structure that is the essential desideratum. Normalize all the tissues structurally and the physiological functions of stimulation and inhibition will automatically adjust. Of course, in some instances, there is a "back-handed" way to adjust structure, and that is by relaxing muscles via inhibition and stretching. No doubt this has a legitimate place, and particularly so where the principle of the "summation of stimuli" is being actualized rampant. But as a general procedure, we should not confuse therapeutic method or application (adjustment—normalization) and physiologic indication (stimulation or inhibiting).

We should constantly remember that muscular action and bony leverages are part and parcel of the unified whole; one part cannot be completely divorced from the whole. Skill and judgment are required in muscular lesion work; and particularly so in borderline cases of combined muscular and interosseous lesions. Then beyond these, where the interosseous lesion is firmly anchored, is required the greatest skill in diagnosis and technique. Physiological rest, a regimen comprising hygiene and diet, and the thousand and one little things pertaining to habits, mental and physical, and environment are all therapeutic sites. But the standarization of technique we refer to comprises the essence of the art of osteopathy, structure determines function; this has nothing to do in actual practice with the biologic phases of the evolutionary dogma. Adaptation and compensation represent biologic truths, things as they actually exist, of which to us in technique practicalness hinge upon structural normalization and hygienic attention.

Now, we think, this rather lengthy but at the same time sketchy introduction, will more clearly define our viewpoint.

A year or two ago we pointed out in the A. O. A. Journal that in order to develop a comprehensive technique we must elucidate the physical laws, the physiological, if you prefer, of the spinal column. This comprises not only the bones and ligaments, but also the muscles and ribs and pelvic, for all are qualifying factors—each factor or part conditions the rest. It is not our purpose here to repeat what has already appeared in print, but to again emphasize that the only way to establish a standardized technique which really means a teachable and scientific technique, is to prosecute the study of these laws both clinically and experimentally. As in all pure science, there is a mathematical basis to these laws, and not before the human mechanism is reduced to such a fundamental can we boast of a really scientific technique.

The mechanics are here; we utilize them every day. Our scientific work is only very fragmentary; hence, the reason for many of our hodgepodge efforts. The flexion and extention, the side-bending-rotation and vice versa, the traction and stretching, the "exaggerate the lesion," the thrust, all constitute measures representative of principles which in their totality are expressive of the physical laws. The mechanism, as all of you well know, is a most complex one; but when some genius, or the combined efforts of many, discovers and analyzes the underlying mechanics in their details, proportions and totality, a standardized technique will be a reality, and a large mass of cumbersome work we now flounder around in will be obsolete.

Dr. Still has the anatomical knowledge that none of us possesses. He knows the bone from its genetic center to distal end of process, its formation and shape, the facets, the attached ligaments and muscles, the innervation and vascular supply, and what all of this means anatomically and physiologically, not only in the isolated tissue and structure, but its conditioning effects mechanically and dynamically upon the mechanism as a whole. He obtained this knowledge through long years of the hardest labor. No doubt, if we had a tithe of this knowldege, the standardizing of technique would be comparatively easy.

When, for example, we locate a lesion of the mid-dorsal, the first thing necesary is to note its structural mal-position in detail—the exact character of the interosseous relationship. Next its relationship to probable superior and inferior spinal lesions—in a word, the conformation of the dorsal curvature; and also the configuration of the entire column and pelvis. The entire mechanism, in detail as well as totality, in other words, the mechanical relationship should be anaylzed. Concomitant with this, the character of muscular and ligamentous pathology must be noted. All of this establishes the basis for technique. It is the precise localization of the lesion that is so necessary in diagnosis of the thoroughly anchored lesion; and as a technique corollary a precise localization or placement of leverages is just as essential. In our opinion it is just this detail and exact knowledge and effort that is most frequently lacking in the technician. Fundamentally to this should be some familiarity of the physical movements of the spinal column, in its entirety, the different regions of the spine, and separate joints.

It matters comparatively little just how we secure the necessary technique leverage, pro-

vided it is effective, does not unnecessarily fatigue or shock the patient, or unduly strain and tire the operator. Whether with the patient in a position of relaxed hyper-extension and we adjust with a thrust, or with the patient sitting in an upright position, we attempt a method that reverses the necessary physiological movements; or when in sitting or lying down the-exaggerate-the-lesion-method is utilized; or with the patient on the face in a properly relaxed position and a thrust is employed, a close analysis of actual conditions is required for all of these methods, as well as others, and must be in accordance with the same indicated physical laws. Usually we employ in a single effort a combination of two or more of the above methods. In the final analysis, no matter what method or combination of methods are used, there can be only one principle of correction for the individual lesion; and that is by returning over the same path of displacement. Many of our so-called methods are only parts of an entire effort or process. The resultant forces have drawn the tissues structurally (mechanically) beyond the point of nature's resources to correct. Our work is to first diagnose, and then utilize some method that returns the parts back over the same outgoing path. This is the essence of standarization of technique as we see it.

It is only by experience and practice that any skill can be obtained. There can be at best only a certain number of methods, and standardization means first a recognition and knowledge of the laws; and, secondly, a knowledge of limitation of expressing the laws in actualization.

In correcting a fifth lumbar rotation, for example, there are several methods whereby leverage is secured, but each and all must abide by the laws of its structural formation. The very character of joint structure limits its laws of movement, and consequently the number of applied methods in readjustment are limited. An analysis and systemization of the several successful methods of reduction would, no doubt, develop the common ground upon which all methods must proceed. This, then, would mean standardization—this exclusively of the individuality of the patient and the personality of the physician.

Likewise in innominate technique, or with any portion of the body, a clear-cut analysis of structure and its containing laws would quickly reveal the several possible methods of technique; and the haziness of fudge and fumble and ordeals would disappear like the morning mist when the sunshine bursts forth. Technique cannot be the complex detail and awe-inspiring buncombe that some seem to make out of it; neither is it time-killing massage and movement stunts that a few have the audacity or ignorance to palm off on an unsuspecting public. We should also always remember that skill and time are our stock in trade, and among our principal assets is our own personal health.

(To be continued.)

14 W. Washington St.

CLINICAL DEPARTMENT

Kendall L. Achorn, D. O., *Editor*
Boston

The following is an extract from a letter recently sent to the members of the New York Osteopathic Society by its President, W. A. Merkley, D. O. Apropos of osteopathic treatment, but particularly the last paragraph. The suggestion is worth much more than you may think until you have tried it. Why don't you start a Treatmen Round Robin in your town?

"You have conferred upon me the honor of 'Chief Executive.' Are you going to enable me to fill the office worthily? Executive officers may direct a campaign but the men on the firing line are the only ones that can put the 'pep' in the battle. The success or failure of our cause will depend entirely upon whether or not you do your duty in carrying out instructions.

"The only one that is hurt by a grouch is the one that nurses it. If you have one, Doctor, strangle it and join in boosting osteopathy. You will be made happy and prosperous.

"'First Instruction.'—Take two treatments, a week from your neighbor and learn first hand how much good osteopathy can do. You will also get a few good ideas in giving treatments. Best of all, you will learn what a good fellow your neighbor is."

TORTICOLLIS

C. G. Hewes, D. O.
Jackson, La.

Here is one little thing which I have tried and never had fail. Take a case of torticollis where the patient's neck is too stiff and sore to manipulate, and, as often in such cases, manipulation aggravates rather than helps: I give the patient just enough ether or chloroform to relax, then, with great care to avoid any additional irritation to the joint, gently adjust the 3d and 4th cervical. I have never failed to find a lesion there and I have never failed to produce a cure in one treatment, that is in acute cases.

In chronic cases I of course treat afterwards to stretch and relax the tissues.

DORSAL TECHNIC

B. H. T. Becker, D. O.
Roanoke, Va.

For some time I have used a variation of the "knees-in-the-back" treatment, which I have found very successful for specific conditions. A great many patients present a simple posterior swerve in the mid or lower dorsal region which an anterior swerve superimposed—a condition that is characterized by great contraction of the muscles which on account of their soreness and uneven pull trouble the patient continually.

The treatment that seems to give this the greatest relief both subjectively and objectively is the simultaneous springing of both curves to-

ward the normal. For this purpose we have all had recourse to the knees-in-the-back. But the trouble with this technique is that it hurts the patient, and, moreover, it is not effective, because the horizontal distance between the two points of contact of the knees is so great as to direct the force against the ribs, instead of against the vertebrae.

To remedy these particular faults of an otherwise effective technique I use a padded block against my knees made as follows:

Take a piece of plank, 7x4x1, on each side nailing a strip, 4x1¼x1¼, leaving a space between about 1 inch in width; and on the back of the plank is nailed a strip, 7x2x1, along the upper edge. The entire block is well padded. The latter strip rests upon the top of the knees and keeps the block from slipping downward. The first two strips fit on each side of the spinous processes against the transverse processes.

This can be used with a comfort and effectiveness impossible to the knees alone. With it the force used is directed against the transverse processes of the vertebrae, the ribs are not disturbed, and the patient isn't injured. When I have a condition like that mentioned above, that is often so sensitive as almost to defy treatment, this block is placed against the posterior segment, with the anterior segment sprung back upon it gives greater relief in the easiest way than any other technique I have been able to apply.

For the upper dorsal region I use the same kind of block, except that it is short enough to fit in between the scapulae.

INNOMINATE AND FIFTH LUMBAR
(When Patient Confined to Bed)

Reginald Platt, D. O.
Barnesville, Minn.

In the January A. O. A. Journal, Clinical Department, I note a call for technique of the pelvis that may be used upon a patient in bed. In the A. O. A. Journal of November, 1914, page 112, I gave a description of the method I use when the patient is in the office. The position of the patient lying across the table, face downward, is one that could not be used with a bedridden patient, nor is it practicable with a case of pregnancy after the fifth month. I have had to work out a technique for such cases, which I will outline for the benefit of any who wish it. The correction is based upon the same principles, viz.: the recognition of the fact that stability is the function of the pelvic girdle (except in parturition); that the wedge shape of the sacrum is such that only a posterior rotation of the innominate is possible as a primary lesion; that to preserve the stability of the pelvic girdle, the opposite innominate rotates anteriorly, thereby locking the girdle in compensation for the primary posterior rotation; that in correcting the condition, the process is reversed and the anterior rotation must be reduced first, followed by the reduction of the posterior side before any attempt of the patient to change positions is permitted.

In the case of a pregnant woman, this method may be used on the treating table if she is able to come to the office for treatment. Where this pelvic adjustment must be made at the house, and the patient can get out of bed, I use a folding table and whenever possible I use the technique with the patient across the table, as the relaxation is most complete, the resistance of the table a known quantity, and the amount of adjusting force and the direction of its application can be determined with exactness.

The greatest trouble in making this adjustment with the patient in an ordinary bed is on account of the width of the bed and the lack of resistance to the force necessary. To overcome these points, wherever possible, I have the patient lifted from the bed to a quilt on the floor or the folding table and have them squarely on the back. It can be done in bed by placing under the patient an old-fashioned ironing board, but on the ordinary bed that entails hard work and is not a satisfactory method of procedure. As an adjunct I have a roll of cloth about five inches long and two and a half inches in diameter. The one I use was made out of tailor's samples rolled tightly and covered with heavy cloth. With the patient on the back, on floor, table or bed, I proceed to diagnose the exact condition, and we will assume that there is a posterior rotation on the left and the compensating anterior rotation on the right. I place the roll of cloth under the sacrum in a diagonal position, so that one end of the roll is under the posterior superior spine of the left innominate and the center directly under the junction of the second and third sacral segements, the other end of the roll not opposing any bony structure, being under the great sacro-sciatic foramen. I then have the patient bring the thighs and legs into an easy semi-flexion with the feet resting on the floor or table. In this position the pelvis rest solely on the roll of cloth.

The adjustment begins with the anterior side and I kneel at right of the patient and grasp the tuberischium of that side with my right hand and the crest of the ilium with my left resting the thenar eminence against the anterior superior spine, pull with the right hand, thrust with the left, so that the application of the force shall be upon a plane parallel to the sacro-iliac articulation. I then take a similar position on the left of the patient and grasp the tuberischium with my left hand and the crest of the ilium with my right hand hooking my first and second fingers at the back of the posterior superior spine, pull with the right hand and thrust my left with the same care as to the direction of the line of force as on the other side. Several attempts may be required before correction is attained, but if care is taken to co-ordinate the movement of the hands, that the lines of force will be arcs of circles around the center of the sacro-iliac articulation, there is

no danger of distressing the patient no matter how weak he may be.

With the patient in the position I have described, the lumbar region of the spine is in a fairly relaxed condition and after accomplishing a reduction of the pelvic twist, I reach under the patient from the left side with my right hand and placing the tips of my fingers on the opposite side of the fifth lumbar spinous process, I spring the same towards what was the posterior side of the pelvis. The entire lumbar region may be examined at this time and is often very easily corrected in this position. After the pelvic twist is corrected, the roll of cloth should be placed under the sacrum at right angles to the long axis of the spine. Sometimes the flexion of the thighs in excess of the first position will materially aid in correction of the lumbar vertebrae.

We must remember that the recumbent position removes the influence of the pelvic lesion as a maintenant of those lesions at upper levels which are secondary to the pelvic condition plus the upright position. Consequently most of these lesions may be corrected and will stay corrected so long as the patient is in bed. One of the secondary lesions which may easily be overlooked is at the lumbo-sacral articulation, and its correction in a bedfast patient will often work wonders in pelvic visceral disturbances, although the pelvis is still in lesions. Of course, the pelvis should be adjusted before such a patient resumes activity in the upright position.

HAY FEVER

Now that the hay fever season is so soon due, won't you give the profession the benefit of your experience, describing in some detail treatment and results in one or more cases. The combined experience of the profession surely will be of value to everyone. Address communications to the editor of the department, 687 Boylston Street, Boston.

MENTAL THERAPEUTICS

G. H. Snow, A. B., D. O., *Editor*
Kalamazoo

Psychology—Sensation

Were it not for the impressions objects make upon our senses we could never know objects. Our knowledge of material things is gained by what is termed sense perception. There is no such thing as a pure or simple sensation. Our experiences always consist of a group or of several sensations received at once. For example, you cannot see the redness or greenness of an apple apart from its shape, size and smoothness or roughness of its surface. A sensation may be defined as a mental state resulting from a stimulation conveyed to the brain centres.

There are three different ways by which this stimulation may be produced. First, the brain centres may be stimulated by means of a change in the quality and quantity of blood in the brain. For example, sudden fright may change the heart beat and a sensation of faintness ensues. Second, the brain centres may be stimulated by means of afferent nerve currents that pass from the end organs on the surface of the body, to the brain. For example, as when the finger is placed on a hot radiator. Third, the brain centres may be stimulated by a mechanical jar of the brain itself, as when one falls striking the head on the icy pavement and sees stars. The list of sensations are long, yet rather short when compared with the multitude of objects from which they are perceived.

All knowledge is obtained through the education of the senses. Some external object must excite one of the numerous end organs of sense before a sensation is produced. All instruction is given and every experience interpreted on the basis of what is called sensation-knowledge.

Every new experience is interpreted in the light of the knowledge of former experiences or sensations. You remember the story of the little girl who saw the deer in the park contentedly lying in the shade chewing its cud, and asked, "What in the world does a deer chew gum for?" But she was interpreting what she saw by her own experience with gum. The fact that different kinds of sensations are produced when different nerves are stimulated is not due to any specific difference in the nerves themselves, but it is due to the different kind of end organs of the nerves which receive the excitation from the outer world. As Prof. James says, "If we could splice the outer extremity of our optic nerves to our ears and that of our auditory nerves to our eyes, we should hear the lightning and see the thunder, see the symphony and hear the conductor's movements."

We will now discuss the various kinds of sensations which are common to all normal persons. We shall take the most complicated first, the sensation of light. The eye is the organ that receives the sensation of light from the outer world. When considering the construction of the human eye one must not forget that the biological aim of this organ is not only to bring to the brain notice of the light changes in the outer world but also to separate the light stimulation from the great multitude of different objects, and from different points of the same object, in the outer world. The brain must adjust itself to the distribution of colors and light and recognize all the changes that take place in these as regards to quality, intensity and mixture of light.

A very delicate apparatus has been prepared to do this work in the form of the hundreds of thousands of end organs in the eye called rods and cones. The cones are bottle-shaped and shorter than the rods and fill the center of the background of the retina of the eye. This is also called the fixation point and is the region of the sharpest seeing. The rods are straight and increase in number with the distance from the center of the retina. Each of these rods and cones is connected by a nerve fibre that communicates with the occipital lobes, the location of sight of the brain. The rods and cones respond

to the vibrations of ether at the rate of from 440,000,000,000 to 790,000,000,000 vibrations per second. The nerve fibers which come from the right side of both retinae, (we are now speaking as if the retina of each eye were each divided into halves, a right and left,) pass to the right side of the brain and the nerve fibers from the left half of the retina pass to the left side of the brain. Thus, if a hemorrhage destroy the occipital part of vision on the left side of the brain the left half of both eyes become blind.

The difference in anatomical structure of the rods and cones suggests that they perform different functions. It has been discovered that the rods react to a very faint light which would be too weak to react upon the cones. So the rods are adapted to darkness and also respond to colored and to mixed light alike, but the response is a colorless sensation. The cones respond to both color and colorless light and it has been found that the central region of the retina, where the cones alone exist, is the region where all colors are visible, and that the outer margin of the retina a simple gray color is the only one visible. Between the center and margin of the retina are regions where only blue and yellow are visible and green and red are lacking. It has been discovered that in about two per cent. of men that the central region of the retina does not respond to the ether waves from the green and red substances and these persons are said to be color blind. That is, they cannot recognize green or red, and everything seems to them to be composed of blue, yellow, black and white. As no difference in the anatomical structure of the cones of these different regions has been discovered the differences in color visions are thought to be due to differences in chemical constitution. That is, that some contain a chemical substance that responds to the ether waves of a certain length and others that respond to waves of another length, etc. It is disputed questions as to how many color tones a person may discern and the number of color tones discernable by the human eye is very large. The average person, in oil colors, can perceive about one hundred twenty-five colors. Herschel claimed that the workers on the mosaics at Rome could distinguish at least 30,000 color tones.

The following is an interesting experiment: Require the subject to fix his attention in some designated point directly in front of him. While his eyes are thus fixed on this point, approach him from behind with a black piece of pasteboard, at the end of which is a small bit of colored paper, e. g., blue. Observe how far forward it must be moved before he will discern its color. Try the experiment again using some other color in place of the blue. You will notice that some colors must be moved much farther forward than others in order that they may be recognized. Furthermore, you will observe that the object is seen, no matter what its color, long before the color itself is recognized.

Sight, under normal conditions, is the leading avenue of perception. It is superior to the other senses in that by means of it one can apprehend things at a distance, as well as those that are near and also as well as a great many things at once. It is also superior to the other senses in the swiftness with which it passes from one object to another; and by so doing gathers a large amount of data in a very short time. Think of the extreme delicacy with which the eye acts, and how it places the facts observed at the service of the intellect, as soon as the intellect can use them.

It is well to consider how very dependent all are upon the acquired perceptions of sight. We judge of the distance of an object from us by its size. We judge of magnitude by the assumed distance and when one is deceived as to distance, one makes serious mistakes as to the actual size of an object. When the size is unknown, we judge of the distance by means of the clearness of color, the sharpness of outline, and the intensity of the impression, which the object makes upon us.

Many experiments have been performed on animals to determine the exact locations in the brain of the nerve center of vision. In fish, frogs and lizards vision persists when the occipital lobes are removed, and in dogs and monkeys the function of sight seems to persist when only a very small part of the occipital lobes remain. However, in man we cannot vivisect, but must wait for pathological condition to produce their results. On the other hand we are not driven to interpret what is observed from outward conduct alone.

The destruction of both occipital lobes, in man, produces total blindness, both sensorial and psychic. By sensorial blindness is meant absolute insensibility to light, and psychic blindness is inability to recognize the meaning of optical impressions. Psychologically psychic blindness is a very interesting condition. It consists not so much in insensibility to optical impressions as in inability to understand them. It is probably due to loss of association between optical sensations and what they signify or the paths have been broken between the optical center and the centers of other sensations.

Hemiopic disturbances are produced by lesions in the retina, the occipital lobes, angular and supramarginal gyri or may accompany extensive injury in the motor region of the cortex.

Prof. James says, "The method of degeneration corroborates the other evidences localizing the tracts of vision. In young animals one gets secondary degeneration of the occipital regions from destroying an eye ball, and *vice versa*, degeneration of the optic nerves from destroying the occipital regions. The corpora geniculata, thalami and subcortical fibers leading to the occipital lobes are also found atrophied in these cases. The phenomena are not uniform, but are indisputable; so that, taking all lines of evidence together, the special connection of vision with the occipital lobes is perfectly made out."

(To be continued).

FOR NEWSPAPER REPRODUCTION

The following is genuine news. Nothing has been published regarding it yet. News editors are at liberty to use this in whole or in part with or without credit to the JOURNAL OF THE AMERICAN OSTEOPATHIC ASSOCIATION. Other news articles regarding osteopathy furnished upon request by Dr. R. Kendrick Smith, 19 Arlington Street, Boston, Director Department of Public Education of the American Osteopathic Association.

MOVING PICTURE DIAGNOSIS

The "Movies" have invaded even the sacred field of science. The latest up-to-the-minute discovery is their peculiar value in diagnosis. This discovery was made by the osteopaths and will be first demonstrated at the world's congress of osteopathic physicians, surgeons and specialists in Portland, Oregon, the first week in August. Officially it is entitled the nineteenth annual session of the American Osteopathic Association, but as the foreign osteopaths are included in this organization it is in reality an international meeting. A thousand delegates will be present.

Dr. J. Ivan Dufur, professor of nervous diseases, of the Philadelphia College of Osteopathy, is the latest hero of the "Movies." For four hours he and the camera men were locked in a room with forty insane epileptics waiting to snap just the right kind of fits. They also had many other harrowing experiences. Moving pictures, it is predicted, will revolutionize the teaching of disease and diagnosis as these subjects can in no other way be vividly presented to the student.

Sunday preceeding the Convention will see the pulpits of the churches of Portland occupied by distinguished osteopathic specialists from distant cities who will discuss problems of public health and morals. The week will open officially with a public mass meeting in the Opera House. Dr. R. Kendrick Smith, of Boston, will deliver a popular address. Dr. T. J. Ruddy, of the College of Osteopathic Physicians and Surgeons at Los Angeles, will give a stereoptican lecture. Dr. Arthur G. Hildreth, of Macon, Mo., will tell of the osteopathic cure of insanity.

The president, Dr. C. A. Upton, of St. Paul, Minn., will preside, and in the technical sessions which begin Tuesday, Dr. George Laughlin, the "American Lorenz," as he is known in the Middle West, will open with an explanation of the osteopathic treatment of pneumonia. Dr. Carl P. McConnell, professor of osteopathy in the Chicago College and the pioneer research worker of the profession, will discuss the cause of the displacement of bones.

"Twilight Sleep," not the drug kind, but the pressure anaesthesia, which is the osteopathic substitute for it, will be explained by Dr. M. E. Clark, of Indianapolis, the author of the text book on obstetrics. The establishment of osteopathic clinics in 300 churches throughout the country will be described by Dr. Ira W. Drew, of Philadelphia, chairman of the national board of clinics. Dr. C. M. T. Hulett, superintendent of the A. T. Still Research Institute in Chicago, will outline the latest experiments conducted in that institution.

The women in osteopathy have started a national campaign for better health and particularly for "better babies." They have entered into the work with amazing vigor, and Dr. Josephine L. Peirce, of Lima, O., chairman of the bureau, will conduct a special session in the work. Dr. O. J. Snyder, President of the Pennsylvania Board of Osteopathic Examiners and President of the American Academy of Osteopathic Clinical Research, will speak upon the progress of the work of the latter body for perfection of accurate recording of cases. The chairman of the section on this department is Dr. William E. Waldo, of Seattle.

Dr. John Deason, of Chicago, director of the Osteopathic Research Institute and author of the latest text book on physiology, will discuss the pathology of the osteopathic "lesion" or displacement of bones. Dr. George Still, professor of Surgery of the American College of Osteopathy, Kirksville, Mo., reads a paper upon gall stones, and Dr. George Conley, professor of Surgery at the Central College of Osteopathy, Kansas City, Mo., discusses the diagnosis of acute abdominal conditions. Dr. Harry Forbes, president of the College of Osteopathic Physicians and Surgeons, Los Angeles, speaks on osteopathic diagnosis, and Dr. H. H. Fryette, professor of technique of Chicago College and a specialist upon innominate displacements, will demonstrate the methods of treating this condition.

Dr. Evelyn R. Bush, of Louisville, Ky., is to demonstrate the curative possibilities of osteopathic gymnastics. Dr. S. V. Robuck, professor of experimental pathology at Chicago College, discusses serum therapy. Dr. W. H. Ivie, of Berkeley, Calif., chairman of the bureau of statistics, reports on the statistical situation in public health. Dr. P. H. Woodall, of Birmingham, Ala., chairman of the publicity department, will report, also Dr. Asa Willard, of Missoula, Wis., chairman of the legislative committee; Dr. Arthur Flack, dean of the Philadelphia College, for the Associated Colleges; Dr. H. L. Chiles, of Orange, N. J., national secretary, for the osteopathic publications. Dr. C. C. Reid, of Denver, Col., is chairman of the section on eye, ear, nose and throat, and Dr. Otis Aikin, of Portland, Ore., of the section of orthopedic surgery, both of which will hold operative clinics. Dr. Charles Spencer, professor of Physical Diagnosis in the Los Angeles College, speaks on diagnosis in hysteria, and neurasthenia. Dr. Edythe Ashmore, professor of nervous diseases in the American School of Osteopathy, is chairman of the section on mental diseases.

RHINO-LARYNGOLOGY

Chas. C. Reid, D. O., *Editor*,
Denver

DISEASES OF THE NASO-PHARYNX

Adenoids

The term adenoid is applied to an enlarged condition of the pharyngeal tonsil. Adenoids and the pharyngeal tonsil are used interchangeably. There is a circle of lymphoid tissue grouped about the throat. The whole circle as a group is called the Ring of Waldeyer. It is composed: (1) of the palatine tonsils which are ordinarily spoken of as "the tonsils." They face one another and lie between the pillars of the fauces; (2) Adenoids, post-nasal growths, adenoid vegetations, or the tonsil of Luschka in the roof of the naso-pharynx; (3) The lingual tonsils are at the base and on each side of the middle line of the tongue; (4) The Eustachian tonsil or tubal tonsil, called sometimes the tube tonsil of Gerlach, which is on the posterior lip of the orifice of the Eustachian tube just anterior and lateral to the fossa of Rosenmüller. In the mucosa connecting all these tonsils is found lymphoid tissue completing the circle.

It is not easy to say always when the pharyngeal tonsil is pathological. A child's naso-pharynx is small and has scant room to spare for enlargement of the post-nasal growths. When the space becomes filled enough to produce clinical results the adenoids may be regarded pathological for that child. Adenoid vegetations sufficient to produce symptoms must be looked upon as abnormal and treated accordingly.

Etiology—Adenoids occur most between the ages of three and twelve. About puberty the tissue atrophies as a rule, but has been seen in patients fifty years old. It is not limited to any one class of people, but occurs in all classes and both sexes. It is more frequent in a changeable climate like that of the temperate zones. Adenoids are found more in some families than others. Repeated colds, hypertrophic rhinitis and any nasal obstruction favor their forming. If the palatine tonsils are enlarged in a child adenoids are quite sure to be present; but a child may have adenoids with no enlargement of the palatine tonsils.

Osteopathic—A subluxation of the occiput, cervical vertebrae or one of the three upper dorsal may produce a vasomotor or trophic effect upon the pharyngeal tonsil causing chronic congestion, swelling and hypertrophy of the Ring of Waldeyer; also rhinitis, deviations and spurs of the septum may occur. After the process has gone so far a correction of the primary cause may have only a limited, if any, effect in curing the condition. There is formed a vicious circle also in the end results. The adenoids act on the nose and throat and the hyperplasia there in return increases the adenoids.

Cervical lesions are often secondary to innominate lesions. One who has examined a nose and throat and the cervical region in adenoids has not done his full duty. By all means he should examine carefully the condition of the innominates. Any lesion there either anterior or posterior will alter the line of direction in the body. In gaining a body balance there must be an adaptation of the spine to the new relations. In this adaptation, secondary cervical lesions are developed which may have a direct bearing upon the production of catarrh, adenoids and enlarged tonsils.

(To be continued.)

Correspondence

The Insurance Department of the Academy of Osteopathic Clinical Research

This department was instituted by appointment under date of November 9th, 1914, "The manager of which will keep record of all companies that accept osteopaths as examiners; show up such Companies as refuse our certificates, and make effort with all companies to have our practicians recognized and eligible upon their examining corps"; and under date of January 16th, 1915, "extending our line of inquiry and investigation to other interests which demand physical efficiency or desire such, as public service corporations, railway systems, public schools, etc."

This is a practical, big business department of the Academy; one through which the profession is pressing for professional recognition, offering reciprocity to collosal business interests; and from which, largely by reason of timidity and diffidence, but reluctant acknowledgement has been vouchsafed.

The general management of the Academy created this department for the purpose of intensifying our identity as a representative school of practice with all reputable Life, Accident and Fraternal Insurance Companies and corporate interests; our service offering safer risks to one, better service to the other, and a safe and sane method of treatment in all forms and varieties of diseases and disabilities.

Osteopathic service should be included in every Workmen's Compensation Act. But the par excellence of our reciprocity offer is prophylaxis.

In asking for professional recognition, we are called on to combat in legitimate and ethical fashion the bigoted discrimination against osteopathic physicians by the covert practices of the medical departments of some insurance companies, and in other instances for the lack of proper conception, innocently permitted.

Much ground has been covered and considerable headway gained through the interest and magnanimity of state secretaries, particularly regards Accident and Fraternal Insurance, but we need all the suasion and pressure that we are able to exert upon Life Insurance Companies, (some of which appear to be lapidified syndicates, and

only by grace called insurance companies) to accomplish all we are delegated to do.

This department invites and urges the support of every osteopathic physician in this movement, and asks that you, at the earliest opportunity write each of your local insurance representatives, inquiring as to the attitude of his company or companies toward legally licensed osteopathic physicians as examiners. Ask him to send your inquiry to the Home Office, and request reply; these replies should be forwarded to this office. Urge your patrons to do likewise. The more irritation we can apply from the periphery by concerted appeal and inquiry, the more promising will be our representations to the center—the directorate of the delinquent companies. The efforts of the insurance department of the Academy redound to your individual profit and prestige, and to achieve consummation, we say: DO IT NOW.

H. Viehe, D. O., *Mgr.*

Memphis, Tenn.

TECHNIQUE M. C. O.

The slogan at the Massachusetts College of Osteopathy during the last year has been Technique. Never before has technique in quality and quantity been given as this year. Early in the fall the senior students petitioned the faculty for more technique. The faculty decided that all three classes should have the instruction.

An immediate reorganization of this part of the curriculum was begun. Warren B. Mack, D. O., was appointed to the chair of technique, with Herbert E. Wright, D. O., and Frank E. Nelson as assistants. The work of these three physicians who are simon pure osteopaths of high standing in the profession and the community has been of the highest order. They follow out Dr. Forbes' mode of describing lesions, and Clark's applied anatomy in teaching the effect of same, and add to these from their large experience.

Dr. Mack inaugurated weekly Friday evening lectures and demonstrations by the best practitioners in the field. A different lecturer appears each week and explains and demonstrates those particular lesions at the correction of which he has achieved the most success in his practice. The result is that the students have been getting the very best of specialized and specified technique.

It is noteworthy that all of the lecturers strenuously emphasize the importance of specific work in preference to the semi-massage form of manipulation to which so many appear to have degenerated. The demonstrations of treatment for acute work by some of the instructors has created great enthusiasm, and I think that it is not too much to say that the osteopathic treatment of acute diseases as taught by the osteopathic physicians at the M. C. O. is equal to that taught anywhere.

Four afternoon lectures, demonstrations and clinics are given to the junior and senior classes each week in addition to the Friday evening lectures. The freshmen class is also in attendance on the latter occasion. As an example of the importance which is attached to this subject, please note the following table:

Monday, 1 to 4 P. M.—Osteopathic Clinic and Technique, Juniors and Seniors, by F. C. Nelson.

Tuesday, 7 to 10 P. M.—Special Osteopathic Technique by special lecturer at Iota Tau Sigma Fraternity.

Wednesday, 1 to 4 P. M.—Osteopathic Technique, H. E. Wright.

Thursday, 1.30 to 4 P. M.—Osteopathic Clinic, W. E. Harris.

Friday, 8 to 10 P. M.—Technique, by a special lecturer from the field.

Saturday, 2 to 5 P. M.—Technique Demonstration and Discussion, by W. B. Mack.

F. C. Nelson also lectures the freshman class every Wednesday from 10 to 12 A. M. on "Osteopathic Landmarks and Spinal Mechanics."

The Freshmen also attend lectures on "Principles of Osteopathy" by Dr. Harris every Thursday morning.

In conclusion I would say that the M. C. O. students get the "Science" straight from the shoulder, while an abundance of clinical material assures them of excellent opportunities for achieving the "art."—Robt. H. Veitch, *(Class of 1916).*

State and Local Societies

Georgia—The State Association held its annual meeting in Cordele, May 14th and 15th. The attendance was excellent as the publicity work had been well done. Dr. Louisa Burns, of the Research Institute was the guest of honor and gave the results of research and laboratory work at the Institute. H. H. Trimble, of Moultrie, demonstrated "The Application of Treatment to Acute Diseases"; Elizabeth Broach, Atlanta, discussed "Heart Troubles"; F. E. Keefer, Fitzgerald, spoke on "Post Graduate Work"; John W. Phelps, of Atlanta, "Public Health Education." "Rheumatism," was the subject of the address of Charles R. Eitel, and O. H. Gripe, Atlanta, "Laboratory Diagnosis." F. Muir Turner, of Savannah, presented the subject of "Pellagra," and W. R. Aspley, Atlanta, discussed "Diet."

W. B. Meacham, of Asheville, N. C., gave a public address in the evening of the first day's session on "Osteopathy in Relation to Modern Health Questions."

J. W. Elliott, of Cordele, President of the Association was the host at a dinner given to the members of the association and many prominent people of the city.

At the second day's session Technique was presented by A. A. Jelks, Macon; W. B. Elliott, Albany; C. R. Eitel; T. D. Seay, Dublin; M. S.

Fahrney, Atlanta. "Modern Methods" were discussed by Nannie B. Riley, of Rome; "The Milk Cure," by W. W. Blackman, Atlanta; "Reflexes," by M. C. Hardin, Atlanta, and "Twilight Sleep," by Gussie M. Phillips, Atlanta. It was considered one of the best meetings ever held by the association. Steps were taken to secure the 1916 meeting of the A. O. A. for Atlanta.

Iowa—The annual meeting of the Iowa Association will be held in Still College, Des Moines, May 19th and 20th. The President of the organization is R. S. Dysart, of Des Moines, and Bruce E. Fisher, of Ida Grove, is secretary. L. Von H. Gerdine, of the American School at Kirksville, will discuss "Sanitarium Treatment of Insanity by Osteopathy," and Louisa Burns, of the Research Institute, will present practical points for treatment as verified by laboratory researches. Others on the program are: S. B. Miller, Cedar Rapids; C. C. Dalin, Shenandoah; F. G. Cluett, Sioux City; E. C. Dymond, Still College; C. C. Trimble, Montezuma; T. P. Weir, Winterset; L. V. Andrews, Algona; U. S. Parish, Storm Lake, and Harry M. Gamble, Missouri Valley. S. L. Taylor, President of the Des Moines College will discuss the subject of "Practical Surgery."

Kansas-Missouri—The joint meeting of the Kansas and Missouri State organizations was held in Kansas City, May 13, 14 and 15. This three-day session is reported to have been the largest attended of any osteopathic meeting ever held except those of the national body. Over 400 were in attendance, representing a dozen states. About 250 sat at the annual banquet, all out-of-town guests having complimentary tickets furnished by the local management.

The two organizations started a movement to secure the A. O. A. meeting for Kansas City in 1916 and over $1,500 was pledged towards defraying the expense of the meeting. Both societies voted unanimously to hold a joint meeting again next year. Both state organizations heartily approve of the plan to co-operate with the A. O. A. in maintaining the Press Bureau and both organizations voted the amount asked for for the maintenance of the work the first year.

Officers elected by the Kansas society are as follows: President, L. S. Larimore, Caldwell; Vice-President, M. P. Morrison, Emporia; Secretary-Treasurer, T. C. Childress, Osage City.

Officers elected by the Missouri society are: President, George J. Conley, Kansas City; Vice-President, M. S. Slaughter, Webb City; Secretary-Treasurer, Nelle Ferry, Nevada.

The program as printed in recent issues of the JOURNAL was carried out and there were practically no disappointments. One of the big features of the meeting and one of the features furnishing the best publicity was the Better Babies Contest, conducted by Drs. Jenette H. Bolles, Denver; Ina Livingston, Zudie Purdom, Sara Leinback and others of Kansas City. Exhibits, programme and publicity were handled by R. H. Williams, to whose untiring efforts much of the remarkable success of the meeting was due.

Minnesota— A meeting of the Southern Minnesota Association will be held at Owatonna, June 19th, when the following program will be presented: "Helpful Suggestions in Gynecological Practice," Laura Bedwell, Mankato; "Osteopathic Procedures Which Relieve Pain," E. E. Giltner, Waseca; "Headaches, Vertigo and Neuritis," W. G. Sutherland, Mankato; "Auto-Intoxication, Constipation, Anorexia and Nervous Prostration," Flora Davey, Minneapolis; "Osteopathy and Confinement," R. M. Jones, Fairmount. Sufficient time will be allowed for demontrations of technique and discussion. All osteopaths from Southern Minnesota are expected and others will be welcomed at this meeting.—R. F. WEEKS, D. O., *Chairman Program Committee.*

New England—The eleventh annual meeting of the New England Association was held at Hotel Lenox, Boston, May 14 and 15, when the splendid program printed in recent issues of the JOURNAL was presented. One of the features of the meeting was J. Ivan Dufur's lectures and kinetographic reproductions of rare and common nervous diseases shown by these films. These were given at noon each day in one of the theatres near the hotel and were considered a remarkable success. Another feature of unusual interest was the demonstration of "Zonetherapy," (pressure anaesthesia) by the originator of the system, W. H. FitzGerald, M. D., of Hartford.

This was a remarkable meeting, both in the large and sustained attendance, the high standard of the program and the exhibits and entertainment features. All guests from outside of New England were presented with a complimentary ticket to the annual luncheon of the second day's session. Much credit is due to the Committee on Arrangements, Francis A. Cave, George W. Goode, Norman B. Atty, also to the untiring efforts of the President, C. H. Wall, of Providence, and the efficient Secretary, Helen G. Sheehan, Boston.

Officers were elected: President, Kendall L. Achorn, Boston; Secretary, Helen G. Sheehan, Boston; Treasurer, Henry Carson, Jr., Ridgefield, Conn.

The following concerns had interesting exhibits: Mellin's Food Co., Boston; E. W. Burt & Co., Shoes, Boston; Horlick's Malted Milk Co., Racine, Wis.; Glyco-Thymoline, Kress & Owen Co., New York; Uncle Sam Breakfast Food Co., A. H. Paulson & Co., N. Y.; The Welch Grape Juice Co., Westfield, N. Y.; Antiphlogistine, Denver Chemical Manufacturing Co., New York; F. H. Thomas Company, Tables, Instruments, etc., Boston; Alkalol Company, Taunton; J. Q. Adams & Company, Books, Boston; The Somol Company, Soap, Cambridge; E. F. Mahady Company, Surgical and Hospital Supplies, Boston; Lea & Febiger, Books, New York; Borden's Condensed Milk Company, New York; Sterling Typewriter Company, Boston; New York Central Lines.

Great Northern Railway Co., official route to the A. O. A. Convention; Herald of Osteopathy; A. S. Aloe Instrument Company, Spencer Microscopes, St. Louis.

New York—The annual meeting of the New York City Society will be held at the Murray Hill Hotel, May 22. The following have been nominated by the committee as officers and will be voted upon at this time: President, Richard Wanless; Vice-President, Ethel K. Traver; Secretary, Edward B. Hart; Treasurer, Arthur S. Bean. Board of Directors, Thos. H. Spence, Ralph Crane, Ernest W. Robson; Keeper of Record, Elvire Tracy; Sergeant-at-Arms, Eugene Kraus.

An interesting program has been prepared, consisting of: Demonstrations of Clinic Cases, "Traumatic Dislocation of Shoulder at Delivery," Evelyn K. Underwood; "Synovitis," John A. De Tienne; "Some Features of Clinic Work Other Than the Treatment of Pathological Conditions," Chas. F. Bandel. Addresses: "Clinic Work in Churches," Ira W. Drew, Philadelphia, Pa., Chairman, Bureau of Clinics, A. O. A.; "Results in About Fifty Cases of Goitre in Clinic and Private Practice," F. M. Plummer, Orange, N. J., Secretary, Bureau of Clinics, A. O. A.

This is the last meeting until September and closes a most successful year's work.

The State Directory, for the convenience of members and the traveling public, has been issued by the efficient secretary of the state organization. It is convenient in form and appears to be accurate in detail and is a model for other state organizations.

The Western New York Assocciation was held at the Hotel Statler, Buffalo, May 8, when the following officers were elected: President, Percy W. Weegar; Vice-President, Grace Learner; Secretary, Andrew S. Wiley; Treasurer, Joanna Barry, all of Buffalo. Board of Trustees: Harry W. Learner, Fred C. Lincoln, Buffalo; A. H. Davis, Niagara Falls. The business session was followed by discussion of practical field problems. The *Niagara Falls Gazette*, following the meeting, gives a two column head-line and a column of space reporting the meeting and discussing osteopathy in the state of New York, altogether forming a very excellent publicity article.

Pennsylvania—The annual meeting of the State Association will be held at Schenley Hotel, Pittsburg, June 25 and 26. Every osteopathic physician in the state is expected and all others are invited to be present at this unusual meeting. Not only is a large attendance anticipated, but a splendid program is being prepared, details of which will be announced in the next issue of the Journal.

At this time it can be promised that L. Von H. Gerdine, of the A. S. O. faculty, Kirksville, will be present, and J. Ivan Dufur, of the Philadelphia College, will present lectures on Nervous Diseases, accompanied by his motion picture studies which have attracted such favorable comment wherever they have been presented.

Look for details of program in the next issue. —J. C. Foster, D. O., *Sec.*

The Philadelphia County Association will hold the last meeting of the year at the Adelphia Hotel, May 20th, when E. E. Tucker, of New York, will be the principle speaker. The election of officers will take place at the same time. S. P. Ross and W. Armstrong Graves have served the Association most efficiently as President and Secretary respectively for a period of two years.

The Closing Exercises of the Philadelphia College will be held in the Witherspoon Bldg., Wednesday evening, May 26. It is urged that the profession show their interest in the college by attending these exercises. On the evening of the 25th, at the Adelphia Hotel, the Alumni Association of the Philadelphia College will tender the annual banquet to the graduating class.

Tennessee—The State Association will hold its annual meeting in Nashville, May 21 and 22, with George M. Laughlin, Kirksville, as the guest of honor and principle speaker. It has been arranged for Dr. Laughlin to perform the operation for the reduction of Congenital Hip Dislocation upon one or more clinics.

The following is the outline of the program as announced: "Technique Catarrhal Deafness," R. F. Titsworth, Knoxville; "Physical and Mental Deficiency," J. R. Shackleford, Nashville; "Examination of Public School Children," M. E. O'Brien, Columbia; "Colitis," R. L. Miller, Knoxville; "Treatment of Hay Fever," O. Y. Yowell, Chattanooga; "Catarrhal Conditions of the Head," E. C. Ray, Nashville; "Ulcer of the Stomach," W. E. Swan, Johnson City; "Treatment of Contagious Diseases," R. M. Echols, Bristol; "Obstetrical Practice," A. J. Harris, Nashville; "Parotitis," R. L. Park, Trenton; "Meningitis," P. K. Norman, Memphis; "Tubercular Joints," G. A. Gooch, Knoxville; "Gynecology," B. L. Blocker, Chattanooga; "Whooping Cough," I. C. Twitchell, Morristown; "Goitre," E. B. Bohannon, Memphis.

J. W. Skidmore, of Jackson, is President, and J. Erle Collier, Nashville, Secretary of the organization.

Texas—The fifteenth annual meeting of the Texas Association was held in Galveston, May 7 and 8, when Dr. A. G. Hildreth, of the Still-Hildreth Sanitarium, Macon, Mo., was the guest, and discussed treatment of nervous cases, and demonstrated technique. H. B. Mason, Temple, demonstrated upon patients the Treatment of Catarrhal conditions of the nasopharynx. The treatment of infants was presented by A. C. Hardy, of Lockhart; discussion led by Charlotte Strum, San Antonio. Papers were also read by J. T. Elder, San Angelo; L. N. Pennock, Amarillo, and C. Compton, of Bellville.

"Pellagra." was discussed by E. M. Bailey, Houston; "Pneumonia," Belle P. Lowry, Ennis, and R. H. Williams, of Kansas City, discussed "Education of the Public."

The state enthusiastically adopted the publicity co-operation plan and pledged a sum in excess of that which was suggested toward the establishment of the work.

OFFICERS ELECTED were: President, H. M. Walker, Fort Worth; Vice-Presidents, C. N. Ray, Abilene, and Rose Bathrick, Austin; Secretary-Treasurer, H. B. Mason, Temple; Trustees, J. F. Bailey, Waco; E. E. Larkins, Galveston; W. A. Lewis, Austin; A. A. Speegle, Palestine.

Washington—The Washington State Association and the King County Association held a joint meeting at Seattle, April 24. W. T. Thomas, Tacoma, reported on the recent state legislation affecting the profession and the decision of the Attorney-General interpreting the osteopathic law of the state. F. J. Feilder, Seattle, gave an address, "Longevity" and "Rejuvenescence." Several new members were taken into the State and County organization.

Wisconsin—The seventeenth annual meeting of the State Association will be held in Marinette, May 26 and 27. The program presents two days of unusual opportunities for the profession; one-half day is to be devoted to specific osteopathic technique, one-half day to acute practice work and one day devoted to practical demonstrations and clinics.

The work in Treatment of Catarrhal Deafness will be presented by Dr. John Deason, of the Research Institute, Chicago, upon Clinics.

THE STATE ASSOCIATION cordially invites members of the profession from border states to attend this meeting.

Colorado—The Colorado Association will hold its semi-annual meeting about the middle of July and it hopes to have a large attendance of those attending the A. O. A. meeting in Portland from the Southwest who will necessarily go through Denver. Notices will be printed in due time.

AS OSTEOPATHIC MEMBERS ON THE NEW BOARD, D. L. Clark, of Denver, and Rodney Wren, of Trinidad, have been apopinted to the new Board by the governor and the act takes effect July 12.

Illinois—The second district Association was organized April 29 with L. R. Trowbridge, of Dixon as President; A. J. Nichols, Elizabeth, Vice-President, and Carrie M. Mundie, Mendota, Sec.-Treas. Quarterly meetings will be held. Next meeting, Freeport, in July.

THE SIXTH DISTRICT IOWA ASSOCIATION held its semi-annual meeting on April 22. The program included papers: "Mucous Colitis," A. C. Brown, Council Bluffs; "Technique, Innominate and Dorsal Lesions," H. W. Gamble, Missouri Valley; "Anterior Poliomylitis," W. J. Forrest, Carroll.

Ohio—The Central Ohio Osteopathic Society met in Lancaster, April 24th, with Charles M. and J. Byron La Rue as hosts when an elaborate dinner was given by them at the Martens Hotel. A musical program was arranged and appropriate toasts were responded to. The guest of the evening was Geo. A. Still, Kirksville, who discussed "The Principles and Practice of Osteopathy."

Alberta—The regular meeting of the Alberta Association was held in Calgary, April 14, when the following officers were elected: President, Howard E. Hastings; Vice-President, N. L. Sage; Secretary-Treasurer, E. D. Plummer; Assistant, H. E. Walker.

An effort will be made to hold monthly meetings in the future with a paper at each meeting from one of the members.

Ontario—At a recent meeting of the Toronto Association, F. P. Millard was elected President, and Janet M. Kerr, Secretary. F. A. Cave, of Boston, and G. W. Reid, of Worcester, Mass., were guests of the Association and discussed "Pressure Anaesthesia" and "The Treatment of Pneumonia," respectively.

Strong resolutions were adopted reciting the fact that our duty to suffering humanity demands that the osteopathic philosophy be preserved pure and that its practice be kept unmixed from drug medication, and resolutions pressed the fact that osteopathic colleges should not be affiliated with medical colleges in any sense, nor teach drugs nor give or encourage the M. D. degree.

F. P. MILLARD, D. O., *President.*
JANET M. KERR, D. O., *Sec.*

EXAMINATIONS FOR STATE LICENSE

Idaho—Meeting of the Osteopathic Board of Examiners will be held in Boise, June 10 and 11. Apply to E. J. Housman, D. O., *Secretary*, Nampa.

Maryland—The meeting of the Maryland State Board Osteopathic Examiners will be held at 326 North Charles St., June 23 and 24. Applications must be in the hands of the Secretary at the above address not later than June 9. H. V. Carter, D. O., *Secretary*, Baltimore.

Michigan—The Michigan Board of Osteopathic Examiners will be held at the State Capitol, Lansing, June 16, 17 and 18, commencing at 9 A. M. Apply to the Secretary at once for blanks and other information. Carrie C. Classen, D. O., *Secretary*, First National Bank Bldg., Ann Arbor, Mich.

Nebraska—State Board of Osteopathic Examiners will hold examination in state house, Lincoln, July 1st and 2d, at 9 A. M. Candidates for examination or reciprocity apply to C. B. Atzen, D. O., *Secretary*, Omaha National Bank Bldg., Omaha.

Pennsylvania—The Board of Osteopathic Examiners will conduct an examination at the City Hall, Philadelphia, June 21, 22, 23 and 24. Application blanks and other information on application to the Secretary. Virgin A. Hook, D. O., *Secretary*, Second National Bank Bldg., Wilkes-Barre, Pa.

Notes and Personals

Montana Chiros Convicted—Several chiros in different parts of the state have been tried recently for violating the Osteopathic Practice Act of the state and convictions secured in every case. Usually the sentence has been a fine of $250, if not paid, to be worked out in the county jail at the rate of $2.00 per day.

In addition to local counsel, Fred Hartwell, Esq., of La Crosse, Wis., general counsel for the Palmer School at Des Moines, appeared for the defendants, also Lee W. Edwards, M. D., and chiro from Omaha, Neb., appeared as expert witness. The most recent convictions were in Livingston and Helena.

Licenses Refused Chiros—The application of a chiro before the town council of Greenville, N. C., for a license to practice was after a hearing denied by the Board of Aldermen of that city.

Status in Kansas—Question has arisen as to whether osteopathic physicians are eligible to the position of county health officer in Kansas. While the law seems to give them legal standing, the act providing for the office in question was created before the Osteopathic Act and in view of the fact that this is not specifically mentioned in the bill confusion is arising and probably a court decision will be necessary to determine whether osteopathic physicians are entitled to serve in this important capacity.

Good for Cornell—Following a protest of students that when confined to the college infirmary they are denied the attendance of an osteopathic physician, the University Board of Trustees at a recent meeting amended the infirmary rules to permit osteopathic physicians to practice in the institution on the same status as those of other schools.

This is a good lead and should be followed in every State institution in the land. The old rules can't stand if enough pressure is brought.

Osteopathy at Home Articles—The Press Bureau desires to announce that the *New York Evening Telegram* is now running on Mondays and Thursdays a series of illustrated articles upon "Osteopathy at Home," by Dr. R. Kendrick Smith. They began April 19. They are syndicated to evening newspapers in 150 different cities and will run for about three months, making a total of about 4,500 articles.

Post Graduate Course—Encouraged by the success of the courses given last summer and at the holiday time, the Chicago College of Osteopathy announces two weeks of post-graduate course from June 1 to June 16; fee for the full course and supplies $25.00. Among the subjects to be presented will be the following:

Diagnosis, Osteopathic, Physical and Laboratory; Technique, Office and Bedside Practice; Practical Osteopathic Gynecology and Obstetrics; Orthopedics; Genito-Urinary Diseases; Practical Pathology in Diagnosis; Deason-Edwards methods in Catarrhal Deafness.

Classes will be in session from nine A. M. to four P. M. daily. The College business office will arrange for boarding places convenient to the College. Price for room and board $5.00 to $7.00 per week.

In addition to the regular work, special lectures will be given by well-known practitioners as in former courses, also ticket will be provided without charge admitting to the Cook County Hospital clinics for the entire period. For further information, address E. S. Comstock, Secretary, 1422 W. Monroe St., Chicago.

Dr. Holloway to be Orator—The announcement is made that at the closing exercises of the A. S. O. at Kirksville, the second week in June, Dr. J. L. Holloway, of Dallas, Texas, will deliver the principal address. The school graduates at this time one of its usually large classes.

Diagnostic Mill—Dr. William E. Waldo, of Seattle, who has charge of the "diagnostic mill" of the Academy of Osteopathic Research at the Portland Meeting, announces that E. R. Proctor, Chicago; Reginald Platt, Barnesville, Minn.; and C. D. Swope, Washington, D. C., are on the program for that event.

Excellent Convalescent Resort—Attention of the profession is directed to the Hill House, 101 Pacific Ave., Atlantic City, N. J., conducted by Dr. Margaret Ammerman Hill. Atlantic City is now appreciated both as a summer and winter resort. The trouble always has been in directing people there in search of health to a place where the hygienic conditions were suitable. Dr. Hill has a splendid house, arranged in small apartments; it is at the intersection of wide streets; quiet and yet only a block from the ocean. These apartments or single rooms may be rented either with most excellent table board, or without board as preferred.

Professional services will be rendered by Dr. Hill if desired, as she conducts a large osteopathic practice at the location.

New Sanitarium—E. O. Millay, D. O., of Romeo, Mich., has recently purchased a large and well located house in that city and is having it remodeled for an up-to-date sanitarium and hospital. Notices in the local papers speak in the highest terms of the location and emphasize the need of such an institution in the community.

Seawater for Wounds—Again the experiences of war are leading to scientific and helpful knowledge. It has been noticed that sailors on receiving wounds and immediately immersed in seawater were less liable to infection, and from this the actual use of seawater as an antiseptic for wounds on the battlefield is reported. The statement is made that it is found more satisfactory than the use of stronger and elaborate antiseptics.

The Fear of Typhus—In the efforts made by this country to prevent the spread of this dreaded disease from the army camps of Mexico and

Europe, the statement is made by the highest authority in this country on this particular disease that absolute cleanliness is the only consideration necessary. For many years it has been known that insects, such as the flea, bed bug, etc., were suspected as being the carriers of this disease. Dr. Anderson, the authority above referred to, now asserts that body vermin only, not even head lice are included, are the means of communication of this fatal malady, and therefore that cleanliness is the only preventive measure necessary.

More and more it seems to be coming to light that the bath tub and our modern ideas of hygiene are really responsible for the checking of contagious diseases, and that antitoxins and vaccines have little or no part in reducing them.

PERSONALS

R. Kendrick Smith, of Boston, has been placed upon the program for the next annual convention of the American Association of Clinical Research which will be held in Philadelphia. The subject of Dr. Smith's paper will be "The Effect of Spinal Adjustment upon Toxaemia."

J. L. Holloway, of Dallas, was toastmaster at a laymen's banquet of the Christian churches of Texas in Dallas on May 5th in the Scottish Rite Cathedral of that city. Eight hundred men were present and addresses were made by some of the best known ministers of the country.

C. C. Norton, 1 Madison Ave., New York, also maintains an office at 74 Fisher Ave., White Plains, N. Y., the latter address by an error being omitted from the recent Directory.

D. N. Morrison, 120 E. 34th St., New York, announces that he has purchased the home and practice of the late Dr. J. Houser Corbin, of Westfield, and will devote Wednesdays and Saturdays of each week to that location.

M. F. Hulett, Columbus, Ohio, has recently added to his office equipment a first class modern X-ray machine. He is also doing considerable work in the forcible correction of spinal curvatures, having several cases at the present time under treatment by the Abbott method.

Born—To Dr. and Mrs. E. L. Longpre, Kankakee, Ill., April 18th, twin girls.

To Dr. and Mrs. W. J. Weitzel, Springfield, Mass., May 15th, a daughter.

To Dr. and Mrs. Howard E. Hastings, Calgary, Alberta, May 2, a son.

To Dr. and Mrs. Keene B. Phillips, Kalamazoo, Mich., May 18, a daughter.

Died—At his residence in Tazewell County, Virginia, April 29, Captain Henry Bowen, father of Dr. Margaret Bowen, until recently located in Richmond, Va. Captain Bowen came of a long line of distinguished people, being the son of General R. T. Bowen, who had represented his district in Congress, and Captain Bowen himself had been a member of the State Legislature and had represented his district in the National Congress several terms.

Wanted—A first class man, to act as assistant or take full charge of established practice in Europe for one or two years. One with practical experience preferred. Give full particulars in first letter with references. State age, height, etc., and send photo. Salary expected from beginning work. No examination. Address, Hudson, 12, Lansdowne Crescent, Edinburgh, Scotland.

For Sale—The following books: Practical Diagnosis, Hare, cloth, 4th edition, Lea Bros.; Differential Diagnosis, Cabot, cloth, 2nd edition, Saunders; Diagnostic Methods, Webster, cloth, 2nd edition, Blakiston; Medical Diagnosis, Green, 3rd edition, leather, Blakiston; Landmarks, Holden, 4th edition; General and Special Pathology, Brooks, cloth, Davis. All in first class condition. Any reasonable offer will be accepted for any one or all. M. N. Y., care JOURNAL A. O. A., Orange, N. J.

APPLICATIONS FOR MEMBERSHIP done

CALIFORNIA

Peterson, Herbert S. (LA), 1613 First St., Los Angeles
Tuttle, A. Marsh (COP), 1410 Hope St., South Pasadena

GEORGIA

Broach, Elizabeth L. (So), 553 Candler Annex, Atlanta

IDAHO

Allen, William Eton (LA), Filer.

ILLINOIS

Stewart, C. E. (A), 64 Illinois St., Chicago, Heights.

INDIANA

Roades, Florence G. (A), Murray Bldg., Richmond.
Townsend, Edgar E. (A), Murray Bldg., Richmond.

IOWA

Middleton, Della (DMS), James Block, Eagle Grove.
Rasmussen, C. (DMS), Techout Bldg., Des Moines.
Zechman, J. E. (DMS), Fleming Bldg., Des Moines.

MASSACHUSETTS

Adams, Celia P. (Me), 1318 Beacon St., Brookline.

MINNESOTA

Estes, George R. (A), Box 178, Alexandria.

MISSOURI

Kauffman, Elizabeth (Ce), Garden City.

NORTH DAKOTA

Herbert, C. T. L. (DMS), Jessen Bldg., Dickinson.

OHIO

Hess, Lawrence T. (A), Masonic Temple, Zanesville.

OKLAHOMA

Wallace, Herbert C. (LACO), S. W. Osteopathic Sanitarium Blackwell.

TENNESSEE

Snapp, J. W. (A), Mahoney Bldg., Bristol.
Lawrence, W. T. (A), Paris.

TEXAS

Coulter, Robert P. (A), Weatherford.

UTAH

Boyer, D. D. (P), Provo.

WISCONSIN

Spencer, Platt Rogers (3), 437 Main St., Racine.

CHANGES OF ADDRESS done?

Bemis, J. B., is now House Physician at Mudbaden, Jordan, Minn.

Bennett, Chas. A., from Valpey Bldg. to Stevens Bldg., Detroit, Mich.

Bower, J. H., from Salina, Kans., to N. T. Armijo Bldg., Alberquerque, N. M.

Buehler, John B., from 381 Fifth Ave. to 18 East 41st St., New York City.

Chappell, Walter G., from Centralia to Central Nat. Bank Bldg., St. Louis, Mo.

Clapp, Carl D., from Evans Bldg. to Mayro Bldg., Utica, N. Y.

Cleveland, Mabel L., from Wayne, Neb., to Iowa City, Iowa.

Cockrell, Irvin, from 1 W. 34th St. to 505 Fifth Ave., New York City.

Coffey, Eva Kate, from 4510½ Moneta Ave. to 551 S. Grand Ave., Los Angeles, Calif.

Coldwells, J. A., from Black Bldg. to Homer Laughlin Bldg., Los Angeles, Calif.

Cooke, H. T., from Austin, Texas, to Clayton, Ohio.

De Lendrecie, Helen, from Fargo, N. D., to 697 S. Kingsley Drive, Los Angeles, Calif.

Drinkall, Earl J., from 27 E. Monroe St. to 1421 Morse Ave., Rogers Park Sta., Chicago, Ill.

DuBois, R. Omer, from Auburn to 1908 First Ave., N., Seattle, Wash.

Emery, R. D., from Auditorium Bldg. to Baker-Detwiler Bldg., Los Angeles, Calif.

Faris, L. E., from Central Bldg. to Chemical Bldg., St. Louis. Practice limited to eye, ear, nose and throat.

Faulk, Minnie L., from Monroe to Masonic Temple, Crowley, La.

Freeman, A. E., from Russellville, Ark., to The Marlborough, Greeley, Colo.

Gardner, Wm., from Kirksville, Mo., to Rockford, Ill.

Gibson, Carl C., from 201 W. Missouri St., to 1214 N. Campbell St., El Paso, Texas.

Hart, Edward B., from 92 Green Ave. to the Richelieu, Brooklyn, N. Y.

Heine, F. R., to Commercial Bank Bldg., Charlotte, N. C.

Herman, J. C., from Daytona, Fla., to Magnetic Springs, Ohio.

Hitchcock, C. C., from Vinton, Iowa, to 4025 Vliet St., Milwaukee, Wis.

Holmes, Kathryn S., from Shukert Bldg., to 513 Grand Ave. Temple, Kansas City, Mo.

Ingraham, Elizabeth M., from Jacksonville to 41 Saragossa St., St. Augustine, Fla.

Jones, Etha Marion, from 3 S. New St. to Bethlehem Trust Bldg., Bethlehem, Pa.

Jones, W. Stanley, from 1329 L st., N. W., to Southern Bldg., Washington, D. C.

Kidder, Edith Florence, from Waterville to 42 High St., Belfast, Me.

Kilts, Wm. H., from Mt. Clemens to 982 Woodward Ave., Detroit, Mich.

Klippelt, J. R., from Newark, Ohio, to Reserve Bnk. Bldg., Kansas City, Mo.

Landes, Agnes V., from 713 Grace St. to 3802 Pine Grove Ave., Chicago, Ill.

Leinbach, Sara, from 3348 Michigan Ave. to 3336 Woodland Ave., Kansas City, Mo.

Linhart, Ernest W., from Browning, Mo., to Theno Blk., Charles City, Iowa.

Logan, C. L., from 57 E. Jackson Blvd. to 3825 Ellis Ave., Chicago, Ill.

Loving, A. S., from 226 N. Church St. to Brown Bldg., Rockford, Ill.

Loring, Margaret, from La Salle to Polo, Illinois.

Lundquist, Nellie O., from Fairfield to Stanton, Iowa.

MacGregor, G. W., from Auditorium Bldg. to Goddard Bldg., Chicago, Ill.

Miller, Orion S., from Frisco Bldg. to 5609 Delmar Ave., St. Louis, Mo.

Mode, Emily R., from Harvard, Ill., to 1038 Vermont St., Lawrence, Kans.

Moseley, J. R., from St. Augustine, Fla., to Petiskey, Mich.

Mosher, Alfred, has opened branch office in Beardstown, Ill.

Neame, Josephine, from Atlantic City, N. J., to Monson, Calif.

Nelson, Lura B., from 424 S. Broadway to 1733 N. Western Ave., Los Angeles, Calif.

Noble, Arza J., from 961 Fourth St. to Owl Bldg., San Diego, Calif.

Olson, Hendrik, from Brighton Ave. to 314 West Park, Rochester, Pa.

Pauls, Peter D., from Lawrence, Kans., to Mountain Lake, Minn.

Pike, Arthur E., from 249 Pine St. to 221 West 4th St., Long Beach, Calif.

Root, F. E., from 222 W. 8th St. to 143 W. Ninth St., Erie, Pa.

Rose, C. A., from Canton to Fairview, Ill.

Russell, Maude F., from First Nat. Bnk. Bldg. to Burk Burrett Bldg, Fort Worth, Texas.

Sash, Elizabeth, from Flood Bldg. to Masonic Bldg., Meadville, Pa.

Schramm, Margaret E., from Consumers Bldg., to Stevens Bldg., Chicago, Ill.

Scott, Geo. D., from 71 Waller St. to 323 Geary St., San Francisco, Calif.

Sharpe, Elizabeth J., from Little Rock, Ark., to 245 S. Grand St., Los Angeles, Calif.

Shrum, Mark, from 262 Washington St. to 180 Lewis St., Lynn, Mass.

Smith, Georgianna B., from 420 S. Grand Ave. to 905 W. 56th St., Los Angeles, Calif.

Slaugh, J. Harry., from Camden, N. J., to 922 W. Lehigh Ave., Philadelphia, Pa.

Stow, John B., from Firemen's Bldg. to 78 N. 11th St., Newark, N. J.

Thayer, H. A., from Granite Bldg. to 200 Park Ave., Rochester, N. Y.

Vincent, A. L., from McIntyre Bldg. to 17 Avalon Apts., Salt Lake City, Utah.

Ward, Maude E., from Steamboat Springs, Colo., to 632 Davis St., Evanston, Ill.

Weed, Loring, has opened an office in Haverhill Nat. Bnk. Bldg., Haverhill, Mass. Dr. Weed retains his office in Andover.

Wolcott, E. J., from Oregon, Ill., to Cook Bldg., Pocatello, Idaho.

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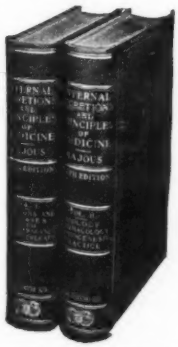

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—VIA—

Glacier National Park

The route of the Great Northern Railway over the Cascade Mountains and thence by way of Puget Sound and Seattle and Tacoma to Portland the route that is to be followed by the Chicago-Portland Special of the American Osteopathic Association—affords a fitting climax to a memorable journey across the Great Northwest.

Leavenworth, Washington (1,644 miles; altitude 1,165 feet), stands at the eastern base of the main range of the Cascade Mountains; here the Great Northern begins its scaling of the Cascades—the most wonderful ride by rail in all America. A second big locomotive—a "helper"—is coupled to overland trains.

Tumwater (Talking Water) Canyon the railway enters immediately and for ten sharply-climbing miles the track twists up this wonder place—a tremendous cleft where the Wenatchee River tumbles and foams between mountains forested with firs, hemlocks, spruces and cedars of the Wenatchee National Forest, and so high that never-melting snow lies in the shadowed crevices about the crests of them. Rare bear, deer and goat hunting is hereabouts.

Nason Creek Canyon the railway climbs from Nason Creek station (altitude 2,153 feet)—another tremendous cleft in the mountains with brawling Nason Creek at its bottom. Beyond Berne (2,914 feet) the track gains the gate of Stevens Pass.

From Cascade Tunnel station (1,677 miles) at 3,375 feet altitude the Great Northern through the Cascade Tunnel passes under the ridge of the Cascades. Cascade Tunnel is a wonder of engineering that's three and one-quarter miles in length, was three years building, and cost three and one-half millions of dollars—a million a mile. Electric tunnel locomotives handle all trains.

Tye (1,680 miles) stands at the west portal of Cascade Tunnel and is perched high up on the north wall of Tye River Canyon: here the Great Northern begins the descent of the Cascade's west slope—the track following a shelf along the canyon's wall. The "doll's house" that's glimpsed from this high track, down in the canyon, is the big hotel at Scenic Hot Springs. The shoulder of Windy Point is tunneled. A bit further on, the track bridges the chasm of Martin's Creek and runs into the unique Martin's Creek Tunnel—both of whose portals are east portals and which describes a complete down-hill horseshoe in the mountain. Emerging, the track again bridges Martin's Creek, and for three miles makes back toward St. Paul along a lower shelf on the canyon's wall. At Scenic the railway horseshoes into the west again—a descent of 1,007 feet in 9 miles of track—at that delightful mountain resort, in the Snoqualmie National Forest, Scenic Hot Springs. Skykomish (1,701 miles) 1,168 feet below Scenic, marks the bottom of the descent of the main range of the Cascades.

But the Great Northern is not yet done with the splendid Cascades country. From Skykomish the enchanting Skykomish River on its way to Puget Sound for thirty miles foams through the Cascades' west spurs: the Great Northern follows down the mountain-flanked, evergreen-forested valley of the Skykomish—alongside the sparkling Skykomish itself. Index (1,715 miles) is a notable station along the Skykomish—a rendezvous for mountain-climbers, campers, and gold seekers. Superb Index Mountain, a mile high, just behind the little town lifts its three white peaks to the clouds.

The salt waters of Puget Sound, the Great Northern reaches from Everett (1,753 miles)—the "City of Smokestacks"—and from Everett southward to Seattle—still another fine rail ride—the Great Northern, over what's nicknamed the "Coast Line," follows along the Sound's shore.

Seattle on Puget Sound—from St. Paul 1,786 miles—is a city that's well worth visiting. The metropolis of Washington, the gateway to Alaska and a mighty port of the Pacific, Seattle is grandly located about the great harbor of Elliott Bay; with beautiful Lake Washington at her back, and Lake Union in her midst besides. The Olympic Mountains stand across the Sound. Along Seattle's miles of wharves giant liners load for Japan, China and the Philippines, Alaskan ships bring in salmon and gold. Seattle's outlook and forest parks are magnificent. Seattle's a wonder city of the Great Northwest of 300,000 people that's grown from a place of 80,000 in a little over a dozen years.

Tacoma on the Sound—from St. Paul 1,827 miles, 41 miles from Seattle over the Great Northern's "Coast Line"—is worth seeing too. It's the second of the Sound's ports, a city of 100,000 and the going-in point for Mount Rainier-Tacoma.

One hundred and forty-two miles south of Tacoma, by way of the "Coast Line," the Great Northern's scenic transcontinental track terminates at the Convention city of the American Osteopaths, Portland.

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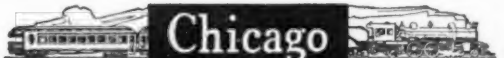

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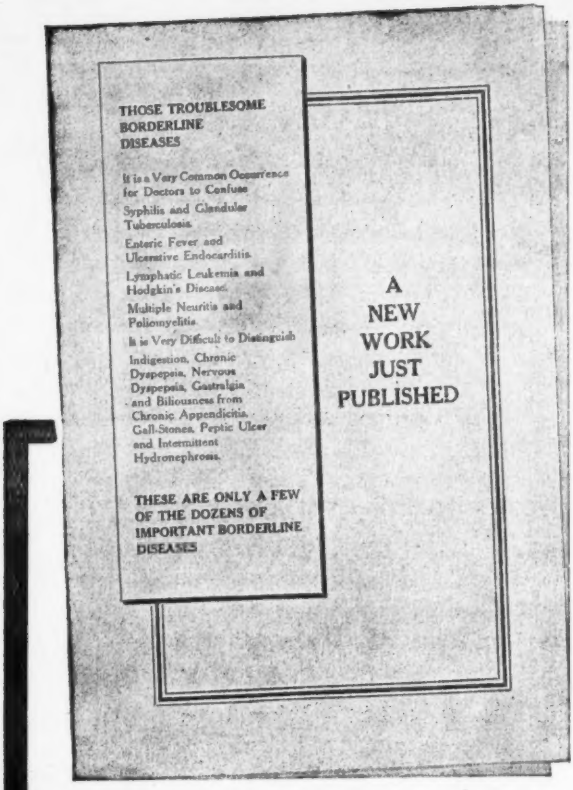
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